
EXHIBIT P

APPENDIX A

PART I

Use your existing network connection and unleash the power to display critical information as it occurs, in real time with just a few simple clicks.

IDEAL FOR AUTHORITIES, MANAGEMENT AND OTHER FIRST RESPONDERS

FIRE/SECURITY ALARMS

MASS NOTIFICATION SIGNALHAZARDOUS MATERIAL STORAGE

UTILITY DISCONNECT LOCATIONS

AUTOMATIC EMAIL NOTIFICATION

CELLULAR TEXT MESSAGES

COLORGRAPHIC FLOOR PLANS

PHOTOGRAPHIC IMAGE DISPLAYS

Receive critical information sooner and in greater detail than conventional dispatch...

iLinkx pinpoints the exact device in alarm, automatically dispatching text messages, emails and color graphic images as easily opened pdf attachments, all while automatically archiving the critical data for future reference should it ever become necessary.

iLinkx dramatically reduces response time by providing earlier notification to those first responders needing critical information.

iLinkx pinpoints the exact device in alarm, automatically dispatching text messages, emails and colorgraphic images as simple pdf attachments, all while automatically archiving the critical data for future reference should it ever become necessary.

Receiving industry proven "Contact ID" signals, iLinkx offers a substantial increase in the lifespan and usefulness of your existing equipment investment. Sites that currently have Digital Alarm Communicator Transmitters (DACT's) which report to monitoring services can easily enhance notification with a few minor programming modifications. Operating in an ancillary capacity, in accordance with National Fire Protection Association (NFPA) standards, iLinkx processes information without disruption to the current dispatch procedures of your existing monitoring service.

Interfacing is easy! There are no special hardware or expensive component requirements, nor are there any hidden procedures. Simply subscribe and receive your iLinkx account information, then enable your DACT/s second account (a rarely used feature of existing UL Listed equipment) to also report information to iLinkx and you unleash the power of your internet network.

Experience the benefits of enhanced notification now, placing critical information into the hands of first responders, management, and staff, including those agencies with a need to know.

By connecting to iLinkx you receive critical information in just a few seconds after the signal has been processed. Emails are automatically generated, without any operator intervention, in a standard text format, with such information as

EXAMPLE: Building Location

Room Description

GPS Coordinate

Device Type (Smoke Det. Pull Station, ect.)

Device Condition (Alarm or Supervisory)

Or any other critical information necessary for first responders or thoses with a need to know.

In addition to the text messages, a colorgraphic floor plan reflecting the exact device location is automatically generated, without any operator intervention in an easy to read .pdf attachment. iLinkx colorgraphic images are of the highest quality, with little or no distortion when magnified and can be easily printed, forwarded or stored by the reciepent/s for future reference as needed.

In the past, the creation of high quality colorgraphics required vast amounts of computer file storage space. iLinkx has perfected the process with its patent pending technology that minimizes the actual file size while maintaining the colorgraphic integrity. This allows enhanced notification, in a much shorter time period than conventional technology with a significant reduction in response time.

Additionally, the creation of high quality colorgraphics required very long, computer screen, build times. Again, the patent pending technology further enhanced notification by pinpointing the specific problem area, reflecting the condition on a colorgraphic image that could be printed, forwarded or archived for future reference in as little as a few seconds.

Colorgraphic floor plans, images and layouts that would only work on certain computing equipment are a thing of the past. Imagine, with iLinkx you can unleash the power of your internet network and receive tommorrow's technology, today in an open protocol, non-proprietary, ordanary format. Critical information, automatically generated and dispatched, in a regular email with a common .pdf attachment and no proprietary hardware. Imagine that!

Applications Worldwide

Unleash the power of the internet when every second counts.

iLinkx software services allow small and intermediate size clients an opportunity to subscribe to enhanced notification as a service without the need of making large equipment expenditures.

iLinkx software products allow larger clients an opportunity to purchase the technology of enhanced notification outright, including all technical support and expertise needed to expand an existing system or the purchase and capital investment of a new one.

Applications

Residential

Commerical

Industrial

Milling/Mining

Manufacturing/Treatment

Chemical Plants

Institutional Facilities

Public Buildings

Military Sites

High Rises

Campus Complex's

Hotels/Conference Centers

Health Care

Airports

Marine

Clean Room Fabrication

Place of Worship

Train/Subway Stations

Amusement Parks

Resorts

Golf Courses

Fish Hatcheries

Agriculture

iLinkx receives industry proven "Contact ID" signals. For new and existing installations, this offers a substantial increase in the lifespan and usefulness of your equipment investment. Sites that have Digital Alarm Communicator Transmitters (DACT's) which report to monitoring services can easily enhance notification with a few minor programming modifications. Operating in an ancillary capacity, in accordance with National Fire Protection Association (NFPA) standards, iLinkx also receives alarm signals, independently processes the information and automatically dispatches without disruption to the current dispatch procedures of your existing monitoring service.

Interfacing is easy! There are no special hardware or expensive component requirements, nor are there any hidden cost or procedures. Simply go to our "Services" tab and subscribe to iLinkx service. Upon activation, you will receive iLinkx account information allowing you to enable your DACT/s alternate account feature (a rarely used option of existing UL Listed equipment) to also report information to iLinkx. You will then begin to unleash the power of your internet network placing critical information into the hands of first responders, management, and staff, including those agencies with a need to know.

Experience tomorrow's technology today with the automatic dispatch of text messages, emails and colorgraphic images. Avoid the high capital expenditure of additional computing stations, software, licensing and the associated labor of staffing such an operation. Enhance your notifications and reduce your response times, while minimizing the cost of operations, training and maintenance.

iLinkx receives industry proven "Contact ID" signals but for larger systems, iLinkx will receive all industry standard transmission protocols including wireless and (IP) internet based signals. For new and existing installations, this offers a substantial increase in the lifespan and usefulness of your equipment investment. Both existing and new sites can easily enhance notification with a few minor programming modifications in the field. iLinkx operates in an ancillary capacity, to any existing or new receiving equipment, in accordance with National Fire Protection Association (NFPA) standards. iLinkx independently processes the information and automatically dispatches without disruption to the current dispatch procedures of your existing receiving equipment or monitoring service.

Interfacing is easy! There are no special hardware or expensive component requirements, nor are there any hidden procedures. Simply go to our "Services" tab and request a proposal for iLinkx as a product. A team of experts will be assigned to promptly assist you and explain how you can

unleash the power of your internet network and place critical information into the hands of first responders, management, and staff, including those agencies with a need to know.

Experience tomorrow's technology today with enhanced notification and the automatic dispatch of text messages, emails and colorgraphic images in addition to the industry standard conventional receiving information. We provide complete NICET Level IV and/or Professional Engineered (PE) services. Whether you need assistance with project concepts, management, or safety coordination, our quality control team will help select the best products and services for your application needs.

Avoid the pitfalls and costly expense of proprietary specifications which only drive up cost and result in expensive sole source equipment procurements. Our professionals will introduce you to the concept of open architecture, open protocol, and non-proprietary equipment, using readily available, standard, off-the-shelf products. They specialize in helping select from the latest technology of headend receiving equipment, console racks, software, panels, and field devices. This allows for a more efficient and competitive approach to equipment design, engineering, purchase, installation, testing, training, certification and warranty. All services provided by our experienced and trained professionals. The service doesn't stop there though, they will assist in the ongoing maintenance and contract support services needed to protect your investment and maintain the highest level of service available to ensure you receive maximum performance during the entire lifecycle of your investment. Allow us to enhance your notification and to reduce response time when those critical seconds determine safety over disaster.

Text messages provide rapid notification, typically within 45 seconds from occurrence and display critical information for those needing to know.

Blackberry Devices expand the enhanced notification platform to include an emailed .pdf attachment in full color reflecting the exact location of the incident.

Personal Computers expand the enhanced notification platform even further, allowing greater viewing opportunities, printing and archiving information for future reference.

Agency Dispatch Centers get the information into the hands of first responders, during precious moments that distinguish safety from disaster.

Cellular Text

Frequently asked questions

Q: Can iLinkx text message my cell phone, and if so, how?

A: Cell phone text messaging, or "SMS" text messaging, is not the same as instant messaging on your computer. They're two very different systems. That doesn't mean all is lost, however. There

are some things that iLinkx can do very well. How much depends mostly on the cellular provider, and the type of phone you have.

SMS Text Messaging, SMS stands for Short Message Service, and is designed specifically for cell phones. iLinkx can usually send an SMS message to a cell phone via email. Most of the cell phone providers have a special email address or domain that you can send a message to, which then gets forwarded as a text message to the cell phone. For example with Verizon in the U.S., you can email #####@vtext.com, where "#####" is replaced with the 10 digit cellular number, and that message will get sent as a text message to that phone. Other carriers typically have some type of equivalent and/or a web page from which you can send a text message to one of their phones.

Important: remember that this is a Short message service ... usually only up to a certain number of characters of your message will be sent. Some providers will simply truncate your message if it's too long, others will break it up into multiple messages. Others might well discard the message. Check with the provider in question.

In addition, to the iLinkx received message, one can also forward the message via SMS on a phone to an email address. In all cases, remember that this is email based, and that response times may vary somewhat, depending on the carrier.

Blackberry Devices

Instant Messaging:

Q: Can iLinkx text message my Blackberry device, and if so, how?

A: Through IM services, like AOL's AIM, MSN's Instant Messenger and others, all are designed for what is called "computer to computer" services. They all assume that you have a computer of some sort. Many Blackberry devices these days pretty much are computers and run things like the Palm operating system, or a version of Windows that allows the receipt of emails and attachments in a somewhat limited or abbreviated form.

Because so many Blackberry devices have internet capability, it only stands to reason that iLinkx would find instant messaging and email notifications a useful tool for enhancing notification on Blackberry devices. In somecases, using an unlimited data access plan one is able to run the Mundu IM instant messaging client and chat using MSN Instant Messenger account, or an AOL Instant Messenger account. The only caveat here is that you must have an internet capable Blackberry device and have signed up for an internet data plan of some sort.

Q: Can iLinkx send an actual colorgraph image to my Blackberry device, and if so, how?

A: Yes. ilinkx automatically generates a colorgraphic image, immediately after receiving a signal, reflecting your floorplan, site location or whatever image you have provided us with. On

that image, a bold rectangle is placed around the specific device, sending the signal as well as a text description is automatically placed at the top edit line of the image. The image is then processed and transmitted to you as an easily opened .pdf attachment and sent to you via email in a matter of just a couple of seconds, not minutes, that the industry has found acceptable in the past.

Q: How large is a typical iLinkx .pdf attachment?

A: That obviously depends on the image and information being displayed however, it has been our experience that a 20,000 square foot floor plan with 50 devices located on it, will yield approximately a 250-300k .pdf file in approximately 2 seconds. (This is approximately 2% - 3% of what a typical email mailbox will receive) The iLinkx process is what is key to this reduced file size and processing time. The benefits become enormous in internet transmission speed, computer screen build times, printing and overall computer management.

Personal Computers

Personal Computers continue to play a larger and larger role, not only in our lives but in the way we are conducting our communications. As technology has improved, monitor displays have also improved. This is where iLinkx really stands out in performance. The methods used by iLinkx in processing signal information, recording it, and automatically dispatching it, in a manageable form is what sets us apart.

The clarity of graphics are unsurpassed and non distorting, even when significantly zoomed in or magnified. This allows much larger colorgraphics images to be transmitted, in a much smaller packets, thus minimizing transmission time, computer screen build times yet provides easily opened attachments, using open protocol, non-proprietary, open architecture .pdf software.

In addition to viewing, messages and attachments are easily printed, in color, archived and even forwarded and made available to others automatically or manually, again using open protocol, non-proprietary, open architecture software, readily supporting mass notification and signalling systems.

Typically, the colorgraphic images are much better displayed on desktop monitors or even laptops because of the improved resolutions that the monitor displays now have. Using standard, open protocol reader programs such as Adobe or other .pdf based readers, one can easily arrange zooming, printing, saving, and even editing features for easy use.

Agency Dispatch Centers

The iLinkx Enhanced Notification Systems is ideal for new or existing Dispatch Centers. Using open market protocols, standard off the shelf hardware and proven application software modules, the iLinkx system operates in an ancilliary capacity to existing or new receiving equipment. The system is fully automated and processes all information independently and

automatically to produce the desired dispatch resulting from a signal or signals received, without any operator intervention whatsoever. The following is a description of how the integrated software modules operate.

iTranslate:

The itranslate software module is a continuously running program utilizing a windows based platform, operating in a minimized state to avoid impeding the background of any currently displayed windows. It is password protected and cannot be closed or shutdown by unauthorized personnel. A backup version is fully integrated, in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the translation module automatically restarts and reloads into the resident operating system without any operator intervention.

iMonitor:

The iMonitor software module contains the setup information to control all activity logging. Additionally, it records a date and time stamp of all signals processed and the post-translated condition of the signal. The information is permanently recorded for historical data retrieval at a later date through the use of the iReport software module. The iMonitor software module determines and controls the overall number of authorized notification points of the Ancillary Notification System by the use of an internal software authorization key. The iMonitor software module is a continuously running program utilizing the windows platform and is minimized to avoid impeding the background of any currently displayed windows. It is password protected and cannot be closed or shutdown by unauthorized personnel. A backup version is fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iMonitor software module automatically restarts and reloads into the resident operating system without any operator intervention.

iWatch:

The iWatch software module contains all of the dynamic activation of text and graphic information to be dispatched to the designated recipient's device/s. The designated recipient devices may include, but not be limited to Blackberry's, Cell Phones, e-mail, Fax Machines, Laptop Computers, Desktop computers, Servers and Pagers.

Upon receipt of a signal, the iWatch software module begins an automatic processing sequence of the graphic information to be dispatched. The information is automatically and electronically generated in a Portable Document Format (.pdf) and stored for retrieval by authorized operators. iArchive software folders are automatically created for each facility account to archive the .pdf files by event and the date and time that they were received and processed. Each iArchive file is individually identified by the respective facility number and contains the exact date and time to the second of the activated event. The .pdf file is available to be access through common windows

programs for viewing and file maintenance requirements. It shall be possible for an authorized operator to view all devices by the simple click of the PC Mouse button contained on the Watch software display screen. Special maintenance alerts, historical data or any text information can be separately stored for each device, by authorized operator reference. The iWatch software module is a continuously running program utilizing the windows platform and is minimized to avoid impeding the background of any currently displayed windows. It is password protected and cannot be closed or shutdown by unauthorized personnel. A backup version is fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iWatch software module automatically restarts and reloads into the resident operating system without any operator intervention.

iDispatch:

The idispatch software module controls all outbound email and text messages to be dispatch to the designated recipient's device/s. The device/s may include but not be limited to Laptop Computers, Desktop Computers, Servers, or any internet email addresses, Cellular Telephones, or Blackberry device/s. The iDispatch software module continually monitors all outbound file messages and upon receipt, dispatches the designated information. The information is be dispatched in the form of text message/s, .wav file/s, graphical image/s, internet link, hyperlinks, and/or any pre-generated .pdf document/s. The iDispatch software module dispatchs all formats or any combination thereof in a single dispatch in a manner that allows cascade notification of unlimited recipients. Graphical images are dynamic in their operation allowing the recipient/s to zoom in or out of the image with no loss or degradation of the image/s. All signals are automatically dispatched, without any operator intervention in under, a total elapsed time of 75 seconds, from start to finish. The time shall be measured from when the actual field device (Smoke Detector, Pull Station, Water Flow, etc.) is activated to when a designated recipient receives the signal. All text message/s, .wav file/s, graphical image/s, internet links, hyperlinks, and/or any pre-generated .pdf document/s are device specific and not general in content. The specific location and all critical information shall be contained with each device dispatch. All graphic images are transmitted in .pdf format, and in color, reflecting the device in alarm in red, or device in trouble in yellow. All devices are reflected on the graphic image however only the abnormal device will be reflected in the designated color based on its condition. A quick locate feature (Bold Rectangle) shall be automatically generated and provided to draw additional attention to the abnormal device, even in a zoomed out condition. It shall be possible to zoom the image from 1% to 6,600% power or magnification. An Dispatch log file is automatically created each and every time a dispatch is made. The Dispatch log file is available to be accessed through common windows programs for viewing and file maintenance requirements. The iDispatch software module is a continuously running program utilizing the windows platform and is minimized to avoid impeding the background of any currently displayed windows. It is password protected and cannot be closed or shutdown by unauthorized personnel. A backup version is fully integrated in the event that a recovery operation from a catastrophic incident becomes

necessary. In the event of a complete windows operating system reboot, the iDispatch software module automatically restarts and reloads into the resident operating system without any operator intervention.

iConfigure:

The iConfigure software module is the utility program used for the inputting the configuration of all critical information into the Ancillary Notification System. Access to the program is by use of authorized passwords. Authorized personnel must sign on using a hierarchy of authorized password levels that have been established by the Master Administrator. Once signed on, authorized personnel shall have the ability to define each and every aspect of the signal and device characteristics. The iConfigure software module has an auto learn feature which enables field devices to be automatically imported into the iConfigure Software, avoiding manual entry of the devices and the associated device descriptor information, not with-standing, in the absence thereof, providing authorized personnel the ability to manually enter the device and descriptor information as an alternative. All Background images (Graphics) shall be programmed as sublevels of an image zone and an image group. All field devices shall be stored in a master database which shall be accessible easily from standard PC Mouse commands. Adding a device to an image consist of three simple mouse clicks to view the entire field device database followed by a simple drag and drop effort onto the respective image. When deleting or relocating a device, the device is simply removed from the image and automatically retained in the field device database for future placement. Editing a device allows authorized operators to change the specific device icon size or all of the device icon sizes contained on the image at one time without the necessity of leaving the edit command screen. After any given device or all of the field devices have been placed onto an image, it is possible to test the dynamic operation of any field device by selecting the device test option. This option allows verification of each field device alarm, supervisory, trouble and restoral functions in a virtual state or mode, as if it were an authentic change of event being received by the operating system.

iReport:

The iReport software module allows for a full history recap via a windows based, report query format structure, that can be entered by device address, type, condition, account, or date criterion and/or any combination thereof. All report results are displayed in less than 2 seconds, as a standard text file permitting easy printing in an open protocol, word merging, and/or text management arrangement. It is also possible to gather email and text message verification from the iArchive software module database for verification of email and text notification/s. A backup version of the Report log files are fully integrated, in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iReport software module automatically restarts and reloads into the resident operating system without any operator intervention.

iArchive:

The iArchive module automatically stores a permanent record of the results of all system transactions to the system archive files. The iArchive software module resides as a separate and distinct database from the history report file and, to insure survivability, is not stored on the same computing device nor at the same computing location as the main operating system. It is possible to easily review the results of any and all transactions of the system at any time without the possible loss or interruption of the main operating system. The iArchive software module automatically restarts and reloads into the resident operating system without any operator intervention.

Mission Statement:

To enhance the notification of yesterday by developing technologies today that deliver the solutions for tomorrow; Through sincere dedication, unmatched quality and unparalleled service, iLinkx is committed to the success of each and every customer it serves. We understand that although our success is dependent on the innovation and level of service we provide, decisions are also based on value. Thank you to those who have chosen iLinkx among an ocean of options and alternatives.

Specifications:

iLinkx Receiving and Ancillary Notification Systems for Dispatch Centers, are also based on open market protocols using standard off the shelf hardware and proven application software programs which are comprised of two fully dynamic and integrated components. The following is a sample specification of those components:

The first component (Part 1) describes the Signal Receiving and Processing Equipment. This component allows operator intervention and defined procedures, which are executed by trained and qualified personnel to accomplish and produce the desired dispatch from the signal or signals received.

The second component (Part 2) is the dynamically integrated Ancillary Notification System which is fully automated and which processes its information independently and automatically, to produce the desired dispatch resulting from the signal or signals received, without any operator intervention whatsoever. Systems that do not demonstrate full dynamic integration, in compliance with the requirements of these specifications are considered substandard and unacceptable and will be rejected.

SIGNAL RECEIVING COMPONENT (PART 1)

LISTINGS AND APPROVALS

The system shall be listed by Underwriters Laboratory under Standards 864 (Control Units for Fire-Protective Signaling Systems), 365 (Police Station Connected Burglar-Alarm Units and Systems), 609 (Local Burglar Alarm Systems and Units), 827 (Central Station Alarm Services -- AA High Line), 681 (burglar and Hold up Systems), 2050 (National Industrial Security Systems for Protection of Classified Materials), 1076 (Proprietary Burglary-Alarm Units and Systems), and 1610 (Central Station Burglar Alarm Units), . The system shall be UL Listed as a CENTRAL and REMOTE SUPERVISING STATION FIRE ALARM SYSTEM per NFPA 72 and as a PROPRIETARY SUPERVISING STATION FIRE ALARM SYSTEM when monitoring inputs other than DACTs. The UL Listing card shall show a (p) for proprietary Fire Alarm (Receiving Unit) under UL 864 category UOJZ.

Each processor controlled system module shall include an independent audible trouble signal (watchdog circuit) to indicate microprocessor malfunction. This is referred to as a "Supervised" configuration and is a requirement of the system operation.

Bidders shall provide UL documentation, accurate statements regarding all dimensions, detailed installation drawings, input power requirements, wiring requirements, and all other specifications required to make a complete evaluation of the system being proposed.

The system shall operate reliably in any environment comfortable to the human operator and shall have no special ventilation requirements.

Any variation from these specification requirements shall include a full explanation of all deviations or exceptions taken from the requirements contained within this document on a paragraph by paragraph basis. Bids or proposals that fail to address each paragraph and meet the minimum requirements specified herein shall be deemed non-responsive and will be rejected.

The Bidder shall be an authorized factory representative for the manufacturer of the equipment and all application software programs specified.

All equipment and application software shall be fully warranted against defects in both materials and workmanship for one year from the date of delivery.

The system shall be configured with the capability of monitoring 9 types of inputs simultaneously without the necessity of adding additional hardware.

1. (DACT) Digital Alarm Communicator Transmitters

The system shall receive alarms from Digital Communicators, Radio Transceivers and Internet Provided Interfaces. The following formats shall be accepted: (SESCOA, VERTEX, DCI, FRANKLIN FAST - 3X1), (SESCOA - 4X3), (RADIONICS HEX - 3X1, MODEM IIIa2 and BFSK), (Old ADEMCO, SILENT KNIGHT SLOW - 3X1), (ACRON - 4X1), (SILENT KNIGHT, NAPCO - 4X2), (CFSK, VFSK, SIA - MODEM), (FBI SUPERFAST, SUR-GARD, ADEMCO HI-SPEED, and (ADEMCO EXPRESS and ADEMCO CONTACT-ID - DTMF).

The system shall support up to sixteen (16) incoming receiving lines using combinations of dual port serial I/O modules and line card units.

A Line Card Unit shall contain a dual line Digital Alarm Communicator Receiver phone line card. The phone line(s), line card, and communications to the Line Card Unit shall be fully supervised and provide audible and printed indications of failure. Power on, off-hook and line loss conditions shall also be indicated by LED activity on the Line Card Unit front panel. The software shall support a 128-event buffer for unacknowledged events and up to six (6) hexadecimal digits of account number, four (4) hexadecimal digits of zone number, and 64 three-character event codes per account.

The system shall provide sufficient memory to allow the storage of field programmable English text descriptions for all accounts, their associated event codes, and input zones. The system shall allow up to 40 lines of 32 characters each for every account message, up to 4 lines of 32 characters each for every zone message, and a 16-character descriptor for each event code. Field programmable event code tags shall be available to allow prioritizing of DACT alarm events to insure the most appropriate and expedient response. Optionally, a "GROUP TROUBLE ACKNOWLEDGE" function shall be available. This function shall allow the acknowledging of signals, programmed with the trouble event code tag, as a group when activated by a single operator action from the "touch screen".

The system shall allow 24-hour test codes to be programmed for all compatible formats. The system shall have the ability to accept 24-hour call-in for transmitter verification, and annunciate a FAIL-TO-TEST alarm if the call-in is not received. The call-in time window shall be user selectable from 1 to 168 hours. The system shall receive Opening and Closing signals without operator intervention.

The system software shall allow dialer accounts to be put IN and OUT-OF-SERVICE. If an account is OUT-OF-SERVICE, all incoming transmissions from that account will be ignored. When a dialer account is returned to IN-SERVICE from an OUT-OF-SERVICE condition, all zones will be considered restored to normal at the receiver.

The system software shall support a Dialer Account TEST mode. If a Dialer Account is placed in TEST mode, all incoming signals will be printed in the standard alarm printout format and optionally stored in History. However, there will be no display or audible alert to the operator.

The system shall allow up to 500 dialer alarms to be included in the rotating, sequential, alarm display.

INTERFACING:

The system software/hardware shall be available without the Line Card Unit to support interfacing with third party digital receivers.

2. The system shall be capable of receiving serially transmitted alarm signals directly or via modems over dedicated phone lines from remote alarm monitoring systems, digital receivers, or Fire Alarm Control Panels. The communication link shall be supervised and, upon failure, the system shall annunciate a communications failure condition. These alarm signals shall be annunciated in a way that is specific to the type of alarm input received. These alarm signals shall be reported on a prioritized basis per UL 864.

3. The system shall be capable of interfacing to radio systems including the RADSCAN AlarmNet 7810 long range radio receiver, the LARSNET RCI3300 and RCI4000, and the Keltron RF7300 – AES Intellinet receiver, via RS-232c. All received alarms shall be annunciated in a way that is consistent with alarms received from DACTs. All field programmable, fixed field, English text annunciation capabilities and outputs shall be supported. It shall be transparent to the operator whether these events were received via Radio, IP or DACT.

4. The System shall also accept all direct connect and multiplex inputs and support all hardware and software outputs of the receiving System. The inputs accommodated shall include reverse polarity, end-of-line resistor, dry contacts, proprietary tones signals, private line or star multiplex and distributed multiplex as well as coded (McCullough) Fire Alarm signals.

SYSTEM OPERATION:

When a change in any of the In-Service inputs occurs, the system shall sound the audible alert, display the appropriate message, and print the appropriate message. In order to silence the audible, the operator must touch the ACK control. Touching this shall cause the audible to silence, and the ACKnowledge message to be printed. This message shall remain displayed until CLEAR is touched, whereupon, the system returns to its regular standby operation. If the operator does not touch ACK, the audible shall continue to sound, but no further printing shall occur for that event.

Inputs that are not in the secure condition shall become part of a display sequence. In case of multiple events are on the list each event shall be displayed for 5.0 seconds in chronological order. Once the end of the list of abnormal points is reached the list shall scroll automatically to the beginning of the list and start displaying the list of events start again. Touching FAST SCAN shall speed this to once every 1.0 seconds. In addition to non-Secure zones, the sequential or rotating display will include a screen for accounts out-of-service and a screen for accounts in test mode.

SIGNAL OUTPUTS:

Relay Outputs - The system shall have the capability of controlling up to 96 normally open or normally closed Form-A relay contacts. The relays shall be mounted 16 to a plug-in circuit board and be accessible from the rear panel. Relay operation is to be completely programmable via the plug-in keyboard, with provisions for up to four (4) relays being energized by one input.

The relays shall have a rating of 400mA at 100VDC, 10VA max. The output connections are to be made by means of a 25 pair standard telephone connector for ease of installation. Relay outputs shall be field programmable by event code for each individual account and will be cleared upon operator acknowledgement.

Transistor Outputs - The system shall have the capability of controlling 288 open collector transistors (OCTs). The OCTs shall be mounted 48 to a plug-in circuit board, and be accessible from the central system processor. OCT operation is to be completely programmable via the plug-in keyboard, with provisions for up to four (4) OCT to be energized by one input. The OCTs shall be able to sink 100ma at 48VDC. The output connections shall be made by means of a 25 pair standard telephone connector for ease of installation. Transistor outputs shall be field programmable by event code for each individual account and will be cleared upon operator acknowledgement.

Auto/Manual Transmitter Output - The system shall have the ability to either automatically or manually transmit a coded signal. There shall be two output relays, and each relay shall be set to any one of sixteen (16) speeds from .25 sec to 4 seconds. The relays shall be rated at 220VDC, 215mA, at 60W max. These coded output relays can be individually set by an internal switch to operate in either Type "A" or Type "B" Mode, with Type "B" mode being defined for Positive Non-Interfering Successive service. The transmission shall be accomplished by either accessing the touch screen for manual output, or by preprogramming individual zone and condition codes via the keyboard for automatic output. Default operational parameters, e.g. speed and number of rounds, shall be set by on-board dip switches which can be overridden by preprogrammed operational parameters for automatic operation. The transmitter shall be a plug-in circuit board that is accessed from the central system processor. Special ALL-OUT and MULTI-ALARM Software applications that transmit specially prefixed coded signals shall be optionally available.

RS232C Output - RS232C ports shall be available which can transmit data upon receipt of an alarm in three modes. Mode 1 will send the 4 lines of the message printed on the internal Dot Matrix Printer. Mode 2 will output the first 10-line display screen from the edited data base message. Modes 1 & 2 shall be printed in 32 or 64 character lines. Mode 3 will output the RS232C data using Radionics protocol to interface to a computer, another monitoring system or a central station automation software package.

Manual Relay Control - As an option, the system shall allow the manual control of relay and transistor outputs by the operator from the Touch Screen. The outputs shall be energized, de-energized, or momentarily energized.

PRINTER:

The printer shall have a minimum of 32 columns to allow instructions to be presented in an efficient manner. The instructions should provide a permanent record of an event, including the time and date of an event for recall purposes.

The printer shall allow the dispatcher to have printed messages or sets of instructions, which shall be field programmable. The messages or instructions can be removed from the printer to take to the site of the event for reference purposes.

Upon alarm receipt the system will print four fixed lines. The first two lines include an alarm or restoral indication, the account number, a time and date stamp, the alarm receiver number, event code description if programmed, or event code default, and the zone number. The last two lines printed shall be field programmable. They shall be the first line of the account message and the first line of the zone message. The alarm printout shall be printed in red or black for special emphasis. The acknowledge printout is always black and is the same as the first two lines of the alarm printout, except it indicates acknowledge instead of alarm and prints the time and date of acknowledgement.

For ready availability and low cost, the printer shall be able to use commercially available plain 3" roll paper.

If desired, fanfold paper should be usable to allow collection in a fanfold catch tray.

To assure the permanence of the record, the printout must not fade with time, as is the case with thermally sensitive paper.

DISPLAY:

The display shall have "touch screen" operating controls to provide the operator with detailed menu-driven instructions for each operator function and maintenance-free operation.

The display is used to present messages or instructions when an event occurs. The display shall be a cathode ray tube (CRT) at least seven (7) inches in size to allow major details of messages to be presented in a single display.

Character size shall allow the operator to read the display from a distance of ten feet. The CRT shall have an orange or green phosphor screen for lower operator fatigue, and direct etch for glare-free viewing. Video attributes shall be used by the system to segregate the fixed format message display screens. Dialer alarms shall be displayed using a fixed format rather than free format messages as are used for other alarm input types. The event information is displayed in separate fields or areas on the display screen. Some fields shall be mandatory. Other fields shall be optional as programmed by the user.

Mandatory fields include the Account Number, Zone Number, programmable event code, and time and date of event. Un-programmed event codes shall be displayed as received with the word 'CODE'. Programmed event codes will display their 16-character description on the alarm display screen. For SIA and Contact-Id formats, the system will automatically annunciate the event code description.

The system shall allow a total of 296 lines of 32 characters each to be programmed for the account and zone descriptions. The alarm display screen shall allow a total of seven (7) programmed 32 character lines to be displayed. These seven (7) lines shall be a combination of account and zone description message lines. All zone message lines shall display on the alarm and acknowledge screens. The system shall allow a maximum of four (4) zone message lines to be programmed for each zone. This leaves three (3) lines that will be displayed in the account message display window on the alarm screen. At least two (2) lines will be reserved for zone messages, even if blank. The maximum size of the account message window shall be at least five (5) lines. Additional programmed account message lines will be accessible only from the acknowledge display screen. The remainder of the account message shall be scrolled through the account message display window by using the NEXT page and BACK page touch switches.

Unprogrammed account or zone description fields shall be blank. There will be a single alarm display screen for any given dialer event composed of the fixed fields, programmable fields, and the touch screen area.

CLOCK/CALENDAR:

The clock portion shall provide military time (24 hour) in hours, minutes and seconds. The calendar shall provide month, day and year. Once set, the calendar shall run automatically with no need to be reset at any time including leap years. A printout shall be made each time the clock/calendar is changed to record that a change was made.

The clock/calendar shall run on 60Hz as available from the power line with its attendant accuracy, averaging less than one second per month deviation. When placed on battery operation, the unit shall automatically switch to a crystal-controlled time base, internally generated, averaging +/- 13 sec/month.

As an option, the system must be capable of synchronizing the real time clock to the National Institute of Standards and Technology (NIST) atomic time standard, via a Synchronized Master Clock from Spectracom or Chronolog Corporation or an approved equal.

MESSAGE CAPABILITY AND EDITING.

Messages can be of various sizes. If an average message size is 256 characters, a minimum capacity of 1000 messages shall be provided with the system with expansion to 20,000 messages possible. Each message shall use the message storage area in multiple blocks of 128 characters each, according to its size, to allow for efficient use of memory space. The system shall support a minimum of 3 megabytes of internal memory.

The system memory shall not have to be removed from the system to be erased or programmed. An installer level password shall be required to access system diagnostics which support hardware and memory testing.

Editing shall be accomplished via a full computer-style keyboard. The keyboard can be disconnected without disturbing normal alarm monitoring. Incoming alarms shall interrupt the edit process. After alarm acknowledgement and dispatch, a single control shall be provided to resume the edit process at the point of interruption.

CONTROLS:

All controls used in the normal operation of the system shall be long life and non-mechanical.

The controls shall be presented on the face of the CRT. Intersecting that area of the CRT screen displayed as a control, either by touching or by placing a finger or similar object just in front of the screen, shall cause activation of that control. This type of control shall allow multiple uses of the controls area with up to 16 different controls displayed simultaneously. Some indication of control activation shall be provided; either an obvious system action will take place or audible feedback shall be provided.

When no changes are being processed, the operator shall be presented with the following controls.

FEED:

This shall cause the printer paper to advance.

STOP:

This shall cause the display to freeze on the current screen.

FAST:

Inputs in an abnormal state shall be displayed sequentially on the CRT screen with a 5 second period. Touching FAST shall cause this period to be 1 second.

NEXT:

Touching this control button shall cause the screen to change and display the following control buttons.

DIALER-ACTIVITY:

This control shall cause the screen to display a Keypad, allowing the operator to select any programmed dialer account alarm input to the system. All dialer activity status changes shall be accomplished with this control. This includes placing accounts Out-of-Service, In-Service and in Test mode.

DISPLAY MESSAGE:

This control shall cause the screen to display a Keypad, allowing the operator to select any alarm input to the system, and to display its programmed display message.

SET CLOCK:

This appears only if the key switch is enabled. This control shall cause the screen to display a Keypad, allowing the operator to set the date and time.

PRINT MESSAGE:

This control shall cause the screen to display a Keypad, allowing the operator to select any alarm input to the system, and printout its programmed print message.

PRINT:

This shall cause "PRINTER OK" plus "TIME & DATE" - to be printed.

LIST:

This control shall cause the printer to list the account numbers and the total number of accounts both Out-of-Service and in Test mode.

CLEAR:

This control shall cause the display to return to normal display sequencing.

RETURNING TO THE NORMAL DISPLAY SEQUENCE:

STOP:

This shall stop the sequential display to allow examination of a particular message. Also, this shall cause the touch area beneath the displayed message to change to include:

CLEAR: This returns the display to its normal sequencing routine.

FEED: This control shall cause the printer paper to advance.

When a change of state occurs, the audible alert sounds and the appropriate messages shall be printed and displayed. Also, this shall cause the touch area beneath the displayed message to change to include:

ACK: Touching this shall cause the Acknowledge message to be printed and displayed and the audible to be silenced. This screen shall also display the FEED control button. After ACK is activated, the screen shall change and display the CLEAR and FEED control buttons.

SOFTWARE OPTIONS:

HISTORY - A battery backed internal RAM storage facility in which to automatically record all operations performed by the Receiver shall be provided. Accessibility is menu driven from the keyboard. A minimum of 4080 events shall be provided per single storage facility. Expansion to 16,352 events shall be possible by adding additional memory capacity and a software upgrade. An external computer shall not be required. Actions recorded shall include Alarm Activations, Restorals and Acknowledgements, In/Out Service functions, Clock Set functions, Master Clock failures, Edit sessions, AC loss alarms, Communication failures, and all System Supervisory alarms. The history record shall be printed or displayed in its entirety, or sorted by account, time, type, priority, and date or in any combination thereof.

The system shall be connected to a PC either locally or via modems. A password will be required to permit system access. This connection shall be for the purpose of database backup, restoral, creation, editing, archiving, printing, or remote programming. This connection shall be transparent to the operator and must not affect alarm receiving in any way.

EDITOR PASSWORD - The system shall be capable of providing password protected database access. This shall limit access to the programmed message database to authorized personnel.

BACKGROUND ALARM PROCESSING - The system shall provide the ability to permit alarms from a remotely monitored location to be passed through an operating system on the way to their final destination without operator interruption. If the signal transmission path is interrupted, the last system before the point of interruption becomes the dispatch location.

CALL ASSURANCE CHECK-IN - Optional software shall be available for institutions such as Assisted Living Facilities. The purpose of the "Call-Assurance Check-in" software is to reduce staffing requirements, by automating the supervision of these people who shall be self-reliant, but require daily confirmation of their physical and mental well-being due to their age, physical condition or mental health. With this system, the residents shall be required to manually activate a signal to the receiver. Reception of proper check-in signals on enabled accounts is normally transparent to system operators. The receiving system's receipt of the correct signal validates the monitored persons "up and about" status. The absence of this signal within a predetermined time period will be treated as an alarm. An exception report, containing those accounts that have not yet checked in, is printed automatically upon expiration of the predefined time period. This alarm event printout signifies the need to physically check on those persons who have not yet reported in that they shall be "up and about".

FT-OPTION - The system shall be capable of dedicating any or all operator's consoles to receive a particular alarm type. The Central System Processor, when equipped with a video display, will annunciate all alarm types. The fire alarms shall go to a particular operator's console at the Fire Department, and the Burglary or Hold-Up alarms shall go to a separate operator's console at the Police Department. In the unlikely event of a system failure all alarms will be annunciated on the operational operators console without regard for the FT-Option.

OPERATOR LOG-ON/OFF - The system shall be capable of providing operator accountability by requiring the operator to LOG-ON with a unique password before alarm acknowledgements will be accepted. LOG-ON/OFF activities shall be recorded in the optional system history file.

NETWORKED SYSTEMS - The system shall be capable of supporting the connection of multiple system processors with alarm receiving and dispatch capabilities. Also supported shall be redundant databases with automatic updates between locations and cross-acknowledge functions.

PHYSICAL DETAILS - The Dialup phone line inputs shall be connected to the line card that is cable connected to the central system processor unit. A standard telephone connection shall be used at the system.

The panel operator's unit shall be inclusive to all operators' functions. The panel operator's unit shall run on 24VDC, filtered, regulated power. The power supply shall be mounted remotely from the panel operator's unit, and shall be powered by 115VAC, 60Hz, and provide terminals to float-charge a pair(s) of 12V solid cell batteries. The batteries shall be supervised and an output provided at the power supply for a no/low battery condition. If AC input power fails, the panel operator's unit shall run on batteries without interruption, and an audible alert shall sound indicating battery operation. Any system AC power failure shall cause a supervisory alarm at all panel operators' units as well as at the central processor, if equipped for annunciation.

All phone line inputs will be connected to the central system processor. The central system processor shall be available with no display, a video display, or video display and printer. A maximum of four remote operator's consoles can be provided per system. The operator's console(s) and central system processor will communicate via RS422 for distances to 4000 feet, and via modems for further distances. Operator's consoles will be available with video display only, or video display and hard copy printer. Communications between the processor and the operator's consoles shall be supervised and provide visual and audible indications of failure. System programming shall be accomplished from any operator's console or the system processor with the display option.

Auxiliary Functions:

When the paper supply becomes low, the screen shall so indicate by displaying PAPER LOW in the lower right hand quadrant. In addition, the audible alert shall be sounded briefly once per minute. The FEED button becomes an "E" control, which when activated permits access to printer feed and print commands. When the paper supply is exhausted, PAPER OUT shall be indicated, and the alert will be sounded as for PAPER LOW. In this case, no further hard copy record will be available until paper is replenished. Events to be printed will be stored and then printed when the paper is replaced.

Should the printer become jammed, the words HEAD JAM will be indicated, and the alert will be sounded once per minute.

OPTIONAL HARDWARE:

Any system module with a CRT Display screen shall be capable of driving an external video monitor via a 75ohm coaxial cable to provide a redundant display only, no controls.

The system shall be capable of interfacing to external line printers via RS-232c, RS-422, or modems. Operating modes one or two shall be selected as well as 32 or 64 character lines. This option shall be added to the operators' consoles or the central processor.

The system shall be capable of transmitting alarm event data to alphanumeric pocket pagers via either an on-site system or off-site commercial paging system provider.

The system shall be capable of interfacing to Central Station Automation Software, PC GRAPHICS, and Computer Aided Dispatch Systems.

The system shall be capable of supporting redundant system processors. The system shall provide a seamless, automatic, switch over function with no loss of account and zone status or database information in the event of primary processor failure.

Life Safety Event Management Software:

The system shall provide detailed information and specifications for a single and multi-user life safety event management automation, graphical display, and dispatch system including all required hardware and software. The software enhances the functionality and utility of the alarm receiving systems or third party alarm receiving and monitoring systems.

The life safety event management system integrates proven reliable alarm monitoring systems with state-of-the-art computing technologies to dramatically increase the capabilities of life safety organizations. The system shall provide a highly efficient access to information that shall enable fast and accurate response to life safety situations.

A reliable and versatile Windows-based system combines the most valuable features of central station automation and graphical display software for fire alarm panels, with proven alarm receiving technology to produce a system that meets the mission critical needs of today's life safety industry.

System Architecture - Performance:

The system is designed to provide high performance and quick dispatch. The dispatch functions shall be separated from database maintenance and monitoring functions to minimize the impact of administrative requirements on the dispatcher while providing a high degree of security and reporting information to the systems administrator and managing stakeholders.

The modular design of the system architecture makes it robust, scalable and extensible. Modular design shall enable specialized software components to perform specific functions efficiently, quickly and accurately without interference from unrelated components. The architecture is built on a standard operating system, using known interfaces and connection methods, with extensive network and printer support.

The central core of the software architecture is the Event Manager module. The primary function of the Event Manager is to maintain the list of active events and alarms and control access from competing client modules. It shall provide continuous backup shadowing to preserve the latest state of all active events in the unlikely event of system interruption.

The Event Manager module acts as a server for various client modules that can originate, manipulate, or display events. Because it has no database connections and very little dependency on system resources, it is very robust, very efficient and very small. Even when under a load of several thousand alarms, it consumes a small fraction of system resources.

To ensure reliability, and minimize the dependency of any specific function on system resources, individual client applications perform different functions, independent of one another.

Examples include:

1. Receiver clients provide the interface to external alarm receiver hardware systems. They manage the unique requirements of the communications link and protocol, isolating these details from the rest of the system, and provide complete event information to the event manager. New receiver clients can be developed with no impact on the Event Manager or any other client module.
2. Supervisory Clients perform specific background tasks such as monitoring periodic device check-in, logging alarms, and monitoring disabled devices and recording events to history.
3. User Interface Clients, like the dispatcher, shall be designed to be intuitive for the user.
4. Interconnection Clients connect multiple redundant system functionality.

The clients shall communicate with the Event Manager through a single, well-defined interface. This interface shall provide the same functional connection whether the Event Manager and the clients reside and run on the same machine or on two machines separated by thousands of miles.

System Features:

The system shall UL Listed to receive alarms from a wide variety of standard industry technologies including Ethernet, active network and long-range radio, star and distributed multiplex style inputs, digital dialers, direct connects (POTS or fiber), and coded signals. It can also accept alarm inputs directly from industry-standard alarm receivers. The system shall enable

fast and efficient communication to the server by providing a customized, ODBC-compliant database that facilitates efficient, accurate alarm dispatching and tracking. Color-coded alarms and custom audio/visual indicators enable instant recognition of the nature and/or severity of an event. Full graphic capabilities shall enable the user to import graphic files to enhance the dispatcher's speed and accuracy and blinking icons that quickly identify the devices in alarm.

The system shall include an integral history reporting function for analyzing historical trends and tracking false alarms. Powerful and flexible search capabilities enable systems administrators to locate and segregate information by entering one or more key words. The standard, open systems database shall enable the administrator to employ third-party reporting tools to provide custom reports when necessary.

The system Server, shall be a dedicated, rack-mount or tower, high-performance server, forms the core of single- or multi-user systems. Stand-alone or rack-mount PC workstations use a standard Windows-based operating system and components to provide sufficient resources for all installed applications.

The system shall provide an advanced Intel Pentium processor, an 8.4-inch diagonal TFT color display with an optional easy-to-use touch screen or familiar keyboard-and-mouse operation, and an optional quiet thermal printer with automatic take-up.

Mounted in a standard 19-inch rack, the workstation is configured to fit a wide variety of dispatch consoles. External video and printer outputs shall be available to easily incorporate industry-standard printers and large-screen displays. The LAN interface shall enable operator workstations to be networked together with the server.

The expanded networking capabilities enable multiple users to access the system simultaneously with varying levels of privileges to perform many tasks such as maintaining customer account information, reviewing event history and active, on-line alarm dispatching. Internet accessibility is also available for feature additions or remote diagnostics.

Functionality:

The system shall provide unique features that meet the wide variety of requirements inherent in the life safety market. The system engineers and product managers shall maintain an extensive schedule of software enhancements shall be generated through ongoing customer and market research.

Supervisory Functions:

The supervisory function monitors a variety of types of alarm and system activity including periodic device check-in, out-of-service and test service mode settings, receiver interface communications link integrity, and system status, such as logging, ticket or report printer availability and status.

When the system detects a problem in these areas, the problem is reported to the operators as a supervisory alarm, and includes a detailed description of the out-of-normal condition.

In addition, the Supervisory Client station shall provide event logging and history recording services.

Rotational display screen:

The system shall provide a view of all active events by continuously displaying these events at five second intervals. This ensures that unresolved issues shall not be lost or forgotten.

Unlimited accounts:

The number of alarms accepted by the system is restricted only by the limits of the computer hardware.

Automatic signal prioritization:

The life safety event management software shall automatically prioritize all alarm signals according to UL standards using programmable event classes.

System response modes:

The system shall support programmable response modes including:

1. User - for full system control
2. Auto-log - to alleviate operator interaction
3. Ignore - for automatic discard of received events

Operational and disable modes:

The system operator shall set the service mode of any connected panel or device to active, out-of-service or test mode.

In active mode the system will annunciate all events from the panel and its devices, according to the default or programmed colors, sounds and display tab preferences. In out-of-service mode, events shall be tracked and recorded by the system but not reported to the operator. When a panel or device is returned to active mode from out-of-service mode, its last recorded status will be reported to the operator if the device is not restored to normal. When a panel or device is returned to active mode from test mode its last recorded status will not be reported to the operator. Disable modes will have a selectable duration and will automatically lapse or shall be manually cancelled by the operator

Group acknowledge:

The 'group acknowledge' function shall enable the operator to batch acknowledge a group of low priority events such as trouble and restore events, so that higher priority events can be managed expeditiously.

Swinger Suppression:

A 'swinger' is an alarm input that constantly toggles between normal and off-normal states presenting hundreds of identical events to the system for processing and operator interaction. The system shall provide a swinger suppression function that prevents the operator from being overloaded with such a huge number of alarms that effective response is impossible. It prevents exhaustion of system resources, even if the system is left unattended for very long periods of time, by reducing the number of spooled printer jobs, and reducing the size of the backup shadow file.

This feature prevents operator frustration and overload by reducing the workload to manageable levels. Thousands of swinger events shall have occurred, but the operator need only respond to the two initial alarms. Swinger suppression prevents the system and operator overload problems by accumulating repeating events together in a single compact form.

When the first trouble event comes in and generates an event on the screen, the system shall sound the audible alert, displays the pending alarm banner, and prints an event record. When the second signal from that alarm is received, if it's the same event code from the same device, no new alarm is generated. If it's a different event from the same device, a new alarm will be generated, printed, logged and, if it is a higher priority (e.g., a fire vs. a trouble) it will take over the pending display.

If the device keeps going back and forth between the trouble and alarm condition, no new pending alarms shall be generated, thus the operator only responds to the pending fire and trouble events.

The history tab shows several pieces of data on that event:

1. The first occurrence of the event
2. The most recent occurrence of the event
3. The number of times the event reoccurred
4. A detailed audit history of the event

After one swinger alarm has been acknowledged, the process starts all over again: the next occurrence of an event will generate a new alarm in the system, but further occurrences will, as above, accumulate into that pending alarm.

Storm mode:

Setting the system to 'storm mode' allows certain events, such as those caused by severe weather, to either be auto-acknowledged or ignored for the period of time the system is in this mode. Non-restoral events shall be maintained in rotation until cleared by restoral signals or manual deletion. At the end of this time, the system automatically reverts to normal operations.

The systems administrator can define which classes of events will be affected along with the automatic expiration period for storm mode.

Sounds:

Audible (.wav) files shall be imported into the database and linked to incoming alarms for automatic operator notification.

Printing:

The system shall use any Windows-supported local or networked printer for the following functions:

Logging - logs every incoming alarm and its acknowledgement with a brief, multi-line line entry. The system shall employ line-oriented, impact or thermal printers for this application.

Ticket printing - prints a single page of information about a specific event. A site shall use either line printers or page printers. Ticket printing is a summary of the dispatch information available on different tabs on the screen. It includes the 'banner', i.e., the alarm type, consolidated location summary and time of occurrence, location, personal contact/key holder information, instructions, site location and info, subscriber and locale name.

Report printing - supports printing the hardcopy output from History Editor, Monitor or third-party applications such as Crystal Reports. Either line or page printers can be used, though laser page printers produce higher quality output in shorter time.

Default operation for un-programmed events:

The software shall provide full support for an intelligent, operator-friendly display of events arriving from un-programmed sources. The software supports intelligent message interpretation of a variety of industry-standard message types, including Ademco - Contact ID format, direct-connect, distributed multiplexer formats, radio formats and SIA-compliant formats, and understands more than a thousand different messages and variants.

When the system is installed, it not necessary to perform extensive programming in order for the system to be immediately usable for operators. When the system receives a message from any of a variety of industry-standard signaling devices, an intelligent interpretation and display of that

event is displayed for the operator. Only the physical location of the monitored system must be programmed.

To facilitate quick event response, instead of presenting obscure event codes, the system clearly displays the nature of the events in prioritized hierarchy. Further programming shall add important functional capability, such as site- and device-specific instructions, customized graphics and audible alerts.

Multi-user features - Remote access:

The system shall provide remote access through standard networking protocols over high-speed TCP/IP links. Remote workstations provide the same level of functionality as the host seat, limited only by the system access privileges that shall be determined on an operator-by-operator basis. Open networks employ a recommended hardware router for secure network communications.

Remote stations can be used not only for regular dispatch access, but for system administration and configuration, as well as history maintenance, auditing and reporting.

Security - Operator Privileges:

To increase security and ensure compliance with published policies and procedures, the system shall provide multiple levels of privileges for operators, users, guests and administrators. For example, operators shall acknowledge and resolve events but not clear them from the system, or a user must have a given level of privilege to access the history tool.

Dispatching:

The system shall provide a main dispatch screen displays all the critical information a dispatcher requires to expedite event management. The system immediately displays the most critical and basic information, with extended support information only a single click away. Basic dispatch information includes the nature of, location, time and date of the event. Extended information includes complete site description and location information, detailed dispatch instructions for the monitored site, call and contact lists, graphic display information including maps and floor plans showing the exact location and the nature of the alarm, photographs and diagrams, account information, and details that shall be used in diagnosing faulty or run-away devices and managing defend-in-place or hazmat situations.

When an alarm is acknowledged, a programmable dispatch tab appears. Normally, the dispatch tab is displayed showing instructions, location and contact information. This setting does not limit access to the other tabs - the operator shall access any tab by clicking it.

Rotation events shall be programmed to appear by class. Rotation retains the last state of the device. Normally, the system retains all off-normal states including both Alarms and Troubles. Restores to Normal, under these conditions, clears an off-normal event from rotation.

Dispatch Operation:

The operator log-in function shall provide an audit trail to track and analyze the alarm monitoring and dispatch function.

The system shall provide an acknowledge screen upon receipt of an event. This first screen displays the nature and location of the event with a programmable color background and a programmable audio component to alert the operator to the type of event. The second screen that is displayed after operator acknowledgement is the dispatch screen. This screen shall provide detailed information on the type of event, location of the event, and the recommended response steps and procedure. The system shall be programmed to display prioritized contact information. The dispatch screen shall provide user access using either a keyboard/mouse or touch screen-activated tabs to the other types of informational screens available to the operator.

1. The 'dispatch' tab returns the operator to the initial dispatch screen.
2. The 'maps' tab shall provide access to graphical depictions of the location and type of event.
3. The 'site' tab shall provide access to information identifying the actual physical location of the monitored system or building and any critical information pertaining to that location such as hazardous materials and any other data specific to that site.
4. The 'notes' tab shall provide the operator with the ability to maintain a running real time record of all action taken and reported in response to the received event.
5. The 'details' tab shall provide the operator or technician with the technical information pertaining to the type of alarm, receiving technology and pertinent notes for that alarm.
6. The 'history' tab shall provide the operator access to the history of that specific event including the event ID, raw event data, time of receipt, time dispatched, source, operator, how many times it was received, and time resolved.

The universally familiar Windows tool bar at the top of the screen shall provide access to the file, service mode and search, event, tools and help pull down menus.

1. The file menu shall provide access to login and logout functions.
2. The service mode menu shall provide access to panel and device control for disabling and enabling alarms.

3. The search menu allows database search by all fields.
4. The tools menu shall enable manual alarm entry and storm mode activation.
5. The help menu shall provide full on-line user documentation.

The operator shall click on the 'alarms pending' window at any time to see list of all events that have been received and shall be pending operator acknowledgement. The operator will see the event priority and shall select an event from the list for acknowledgement, dispatch and resolution. All resolved events shall be accompanied in history by an operator selected resolution code. This code aids in historical trend analysis.

Programming:

Use of the configuration database maintenance application requires the user to log in with a recognized password and privilege level. Logon privileges, as set by the system administrator, determine the level of access to the systems database.

Existing sites or accounts shall be updated or added using the configuration database maintenance application.

The system shall provide the ability to add extended site information such as contacts (key holders, supervisors, and other related personnel), site-specific instructions, detailed explanatory notes, and warnings. In addition, the user shall import and associate graphic images such as maps and floor plans that illustrate this information and can help the dispatcher to quickly and accurately respond to an event.

The system supports programmed receivers, locales, device templates and event categories. Some of this data is pre-configured from the factory. Other data is programmed during the initial setup.

The receiver object is supported by receiver interface software clients. The receiver object shall provide a programmable tab displays such as general, configuration, and locales.

The locale can be associated with a physical entity or several physical entities as well as with a single receiver or multiple receivers.

The user shall be able to add information about the hardware devices that are monitoring that site.

All access to and control of the database maintenance application is provided through two methods: the navigator, which shall provide a graphic-oriented hierarchical view of the database, and the menus. While many functions can be accessed either way, there shall be some that shall be only available through one method.

For those functions accessible by both, the choice is a matter of convenience or preference. Accessing elements of the database is general and not constrained by how the various elements and layers relate to one another. For example, it is easy to use the search menu to find any device in the system, whereas it shall be simpler to find a device belonging to a particular site using the navigator.

The navigator window is divided into two 'panes'. The left pane shows a hierarchical directory of the database. The right pane displays the detailed contents of each layer selected from the hierarchical directory.

The left pane of the navigator is the Navigator Directory, displaying each level in the database hierarchy. Required for programming a device is an icon and a label for Receivers, Locales, Subscribers, Sites, and Devices, as well as entries for Service Companies, Event Categories, Contacts, Authorities, Operator Groups, Operators and Device Templates. Click any of these and the right window displays the contents of that level.

The Navigator Directory shall provide quick-access functions including; add, search, expand and collapse.

The database maintenance application shall provide a comprehensive menu of functions to provide access control, set display mode, search for items or add new ones, and configure different aspects of the system.

The menus include: file menu, view menu, search menu, new menu, and tools menu.

1. The file menu shall provide the exit function.
2. The view menu shall enable the programmer to choose from iconic, list or detailed viewing of the right navigator pane objects.
3. The search menu shall enable the operator to search for any editable database object.
4. The new menu shall enable the programmer to add an object to the database.
5. The tools menu shall provide dispatch options, printer, storm mode and group dispatch setup.

To add a new site or account to the database, the user should have the following information readily available:

1. General information for the site or account such as the name/description, the account number (if any), physical address and site telephone number.
2. In which Locale the site is located.

3. The type and identification number, account number or hardware address of the hardware that is used to monitor the site; for example, the particular model of radio transceiver or the connection point for a direct-wire device.

4. Optional contact information such as key holder name and phone numbers, graphics information such as maps or floor plans, subscriber information and if the site is one location of several under a single subscriber.

The maintenance application shall enable the user to pre-program general support information before adding information for specific signaling devices. Examples include objects such as:

1. Service companies
2. Operator groups and individual operators
3. Event categories
4. Device templates

Each of the major entities in the database (Locales, Subscribers and Sites) shall provide the option of programming a designated service company - the organization responsible for installing, maintaining and upgrading the equipment and systems.

1. The Locale object supports authorities, service companies, notes, sites and contacts programming.
2. The Site object shall enable general, device, contact, graphic, instruction and note tab programming.
3. The General tab allows the programming of information such as address, with locale, service company and subscriber fields being selectable from a list and filling the appropriate field automatically. The site name and ID shall also be programmed on the General site tab.
4. While the Site represents the monitored area, the devices provide the association between physical messages from a remote sensor and the high-level information about the site.
5. The Contacts tab shall enable the programming of call lists and selection of a primary person.
6. The Graphics tab shall enable the user to associate graphics such as maps, floor plans or images with the site. The number of graphics that shall be associated with a device is unlimited.
7. The Instructions tab shall enable the user to enter site-specific instructions to be displayed to the operator when an event occurs at the site.

8. The Service Company entry supports programming entry tabs of clients, contacts, and notes.
9. The system allows devices to be added and shall provide general, zones, event codes, icons, and instructions tabs.
10. Zone information shall come from a template or be programmed individually for each device.
11. The Event Codes tab shall provide the connections or mappings between the device's low-level hardware event codes and the pre-programmed event categories.
12. The Icons tab shall enable the user to place icons on the graphical images.
13. The Event Categories entry generates operator-friendly, comprehensive actions in the database.
14. The Instructions tab shall enable the administrator to enter detailed instructions that shall be specific to the device being programmed. The instructions will be displayed along with the event category instructions when the device signals an event.

The system shall allow the user to program direct connect devices as zones. The supported programming tabs shall be general, event codes, icons, and instructions. The General tab supports device ID, template selection, site, receiver, location, and zone. The system shall enable the user to program the subscriber object. The supported programming tabs shall be: general, sites, contacts and notes.

The system shall provide multiple levels of access privileges through the use of operator groups. Each operator group can be assigned different levels of privileges. Individual operators can be added to operator groups, and shall be given the privileges of that group. The system supports multiple operator groups, each with its own privilege mask combinations.

The system supports the programming of default behavior in response to received events including sounds and colors.

The system shall provide device template architecture. This shall enable the user to program a complex panel or device model only once. Adding new customer accounts using device templates is very fast, efficient and reliable. These features substantially reduce programming time and programming errors all of which minimize setup costs. The user can easily change global device behavior, such as check-in-times, on multiple devices by changing the device template, reducing ongoing maintenance time and expense. Template behavior shall be overridden partially or totally for account- or zone-specific behavior through account and zone programming, without invalidating existing templates.

Database:

The system includes an ODBC database that shall enable ANSI-compliant SQL access.

Schemas shall be public and published.

An XML importer is functional, to allow the user to import other databases.

The system supplier shall provide online utilities for database maintenance such as backup/restore, version upgrades, and like functions.

Graphic Files:

The system shall support multiple graphic file formats. Files shall be attached to an incoming alarm and linked in a hierarchy so navigation, can be performed by the operator. This shall enable the system to receive an alarm and automatically display a street map and/or subsequent graphics of the building, wing, floor, room, and finally to the device icon.

The following file types shall be directly imported into the system:

1. .BMP, .RLE - Windows bitmap graphics files
2. .GIF - Graphics Interchange Format files
3. .JPG, .JPEG - Joint Picture Experts Group format files
4. .PDF - Portable Document Format
5. .WMF, .EMF - Windows graphics metafiles
6. CAD files must be 100% transparent and compatible with these file formats.

The system application software shall support multiple hierarchical graphic images creating important instruction and/or images:

In an emergency situation, multiple hierarchical graphics shall provide the dispatchers with the most accurate and efficient method of understanding the physical situation of an event. This approach to graphical file presentation shall be full dynamic and not put any additional burden on the operator to manage a graphics environment while in the midst of managing with mission-critical events.

The system's graphic structure shall enable the administrator to provide a mix of images: beyond the normal maps and floor plans, the administrator can include photographs of attending personnel or of specific areas, providing the facility optimal flexibility and versatility. Using dedicated images also minimizes system resource requirements.

Monitor application:

The Executive Monitoring utility shall provide the site administrator or supervisor with a way to monitor basic system activity and status from any appropriately-configured local or remote workstation computer. This function shall be available only for monitoring the system status and shall provide no means to directly modify events.

The monitor utility shall provide a display of the following important system activities and states:

1. Active events: all currently active events shall be displayed. Separate windows provide displays of all new, pending, in dispatch, on hold, resolved and in rotation events. Any event can be selected to display the details associated with the event, including extensive site-specific information.
2. Disable devices and zones: Any device which is placed in out-of-service, test or other disable modes is displayed, along with site information and expiration time.
3. Operators: a window displays all logged on operators by operator name, system name and log-in time.

History:

The system shall provide full history recording capability. History data is stored to an ODBC-compliant database separate from the main configuration database to minimize impact on the main database resources. This allows the databases to reside on physically separate volumes.

The history system records the following important system events:

1. All real-time events, such as alarms, troubles and restoral's originating from real devices through event receivers.
2. Operator-generated manual alarms.
3. System-generated supervisory events such as missed check-ins, receiver communications failures, printer faults, etc.
4. Device service mode changes.
5. Operator logins and logouts.

Where appropriate, a complete history for each event state change, such as acknowledgement, resolution and eventual removal is captured, including details of when the transition occurred, and the operator responsible.

History editor:

The system shall include an online history editor and viewer application that shall enable the user to instantly view the contents of the system's history database. Functional features shall include:

1. Search on different criteria, such as locale, subscriber or site name/number, event type, current event status, and dates
2. Sort event display on any displayed attribute
3. View event details of any selected event
4. Add short notations to events (requires appropriate operator privileges)
5. Add updated or final resolution of events (requires appropriate operator privileges)
6. Print a report of selected and sorted events on any networked Windows-based printer. Operator shall choose to print all or just selected events.
7. Erase selected events from history database (requires appropriate operator privileges)

System configurations:

The system shall be available in a range of configurations to meet the individual needs of different facilities. These configurations shall be combined in a variety of ways to allow system configurations for alarm monitoring applications ranging from single-package, single user stand-alone or rack systems to full receiving rack-based servers supporting multiple operators over secure LAN and WAN connections.

Systems that are installed on an open network shall be configured to include routers/VPNs at each access point, so as to protect the system from unauthorized access.

System hardware and operational specifications

Standard hardware includes:

- 4U standard rack-mount chassis with integral, dual, hot swap, 400 watt 120/240 VAC power supplies
- ATX form-factor motherboard
- Dual Quad Core Processors
- 8GB of memory, expandable to 32 GB
- SVGA or better display system
- 10/100 LAN Ethernet port

- 10 USB 2.0 ports
- Wireless keyboard and mouse interface
- One parallel port (rear)
- Multiple serial ports
- Internal 3 TB high-capacity disk storage
- 2 - Integral 52X CD-RW drive
- Built-in 8.4" high bright LCD (300 nits)
- Rack-mount keyboard/mouse shelf
- Redundant high-performance, high-reliability SCSI-III multiple-drive RAID configuration with real-time background data shadowing.

ANCILLARY NOTIFICATION COMPONENT (PART 2)

The system software module shall, upon receipt of a signal, translate the format in which the signal was received to determine the designated facility name/ number, the specific address of the device sending the signal, the designated type of device, and the condition or state of the device. (Alarm, Supervisory, Trouble, or Restore) Once the information is received it will be automatically processed to the Monitor software module of the Ancillary Notification System. The translation software module shall be fully programmable to translate all signals from any manufacturer's panel in an open protocol without the possibility of loss of information or interruption of service.

iTranslate:

The itranslate software module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and shall not be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the translation module shall automatically restart and reload into the resident operating system without any operator intervention.

iMonitor:

The iMonitor software module shall contain the setup information and control all activity logging. Additionally, it shall immediately record a date and time stamp of the signal being received and the post-translated condition of the signal. The information shall be permanently recorded for historical data retrieval at a later date through the use of the Report software

module. The Monitor software module shall determine and control the overall number of authorized notification points of the Ancillary Notification System by the use of a software authorization access key issued by the manufacturer. The Monitor software module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and cannot be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the Monitor module shall automatically restart and reload into the resident operating system without any operator intervention.

iWatch:

The iWatch software module shall contain all of the dynamic text and graphic information to be dispatched to the designated recipient's device/s. The designated recipient devices shall include, but not be limited to Blackberry's, cell phones, e-mail, fax machines Laptop computers, Desktop computers, Servers and pagers.

Upon receipt of a signal, the Watch software module shall begin an automatic processing sequence of the graphic information to be dispatched. The information shall be automatically and electronically printed in a Portable Document Format (.pdf) and stored for retrieval by other authorized operators. Archive software folders shall be automatically created to store the .pdf files by event and the date and time that they were received and processed. Each Archive file shall be individually identified by the respective facility number and shall contain the exact date and time to the second of the event. The .pdf file shall be available to be access through common windows programs for viewing and file maintenance requirements. It shall be possible for an authorized operator to view all devices by the simple click of the PC Mouse button contained on the Watch software display screen. Special maintenance alerts, historical data or any text information shall be separately stored for each device, by authorized operator reference. The Watch software module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and cannot be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the Watch module shall automatically restart and reload into the resident operating system without any operator intervention.

iDispatch:

The idispatch module shall control all outbound email and text messages to be dispatch to the designated recipient's device/s. The device/s shall include but not be limited to Laptop computers, Desktop computers, Servers, or any internet email addresses, cellular telephones, or

Blackberry device. The Dispatch module shall continually monitor all outbound files and upon receipt, dispatch the designated information. The information shall be dispatched in the form of text message/s, .wav file/s, graphical image/s, internet links, hyperlinks, and/or any pre-generated .pdf document/s. The Dispatch module shall dispatch all formats or any combination thereof in a single dispatch to unlimited recipients. Graphical images shall be dynamic in their operation allowing the recipient/s to zoom in or out of the image with no loss or degradation of the image/s. All signals shall be automatically dispatched, without any operator intervention in under, a total elapsed time of 75 seconds, from start to finish. The time shall be measured from when the actual field device (Smoke Detector, Pull Station, Water Flow, etc.) is activated to when a designated recipient receives the signal. All text message/s, .wav file/s, graphical image/s, internet links, hyperlinks, and/or any pre-generated .pdf document/s shall be device specific and will not be general in content. The specific location and all critical information shall be contained with each device dispatch. The graphic images shall be transmitted in .pdf format, shall be in color, reflecting the device in alarm in red, or device in trouble in yellow. All devices shall be reflected on the graphic image however only the abnormal device will be reflected in it designated color based on its condition. A quick locate feature (Bold Rectangle) shall be automatically generated and provided to draw additional attention to the abnormal device, even in a zoomed out condition. It shall be possible to zoom the image from 1% to 6,600% power or magnification. An Dispatch log file shall be automatically created each and every time a dispatch is made. The Dispatch log file shall be available to be access through common windows programs for viewing and file maintenance requirements. The Dispatch module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and cannot be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the Dispatch module shall automatically restart and reload into the resident operating system without any operator intervention.

iConfigure:

The iConfigure software module shall be the utility program used for the inputting the configuration of all critical information into the Ancillary Notification System. Access to the program shall be by use of authorized passwords. Authorized personnel must sign on using a hierarchy of authorized password levels that have been established by the Master Administrator. Once signed on, authorized personnel shall have the ability to define each and every aspect of the signal and device characteristics. The Configure software module shall have an auto learn feature which enables field devices to be automatically imported into the Configure Software, avoiding manual entry of the devices and the associated device descriptor information, not with-standing, in the absence thereof, providing authorized personnel the ability to manually enter the device and descriptor information. All Background images (Graphics) shall be programmed as sublevels

of an image zone and an image group. All field devices shall be stored in a master database which shall be accessible easily from standard PC Mouse commands. Adding a device to an image shall consist of three simple mouse clicks to view the entire field device database followed by a simple drag and drop effort onto the respective image. When deleting a device, the deleted device shall be removed from the image but shall be retained in the field device database for future replacement. Editing a device shall allow authorized operators to change the specific device icon size or all of the device icon sizes contained on the image at one time without the necessity of leaving the edit command screen. After any individual or all of the field devices have been placed on an image, it shall be possible to test the dynamic operation of any field device by selecting the device test option. This option shall allow verification of each field device alarm, supervisory, trouble and restoral functions as if it were an authentic change of event being received by the operating system.

iReport:

The iReport software module shall allow a full history recap via a windows based report query format structure that can be entered by device address, type, condition, account, or date criterion and/or any combination thereof. All report results shall be displayed in less than 2 seconds, as a standard text file permitting easy printing in an open protocol, word merging, and/or text management arrangement. It shall also be possible to gather email and text message verification from the Archive software module database for verification of email and text notification/s. A backup version of the Report log files shall be fully integrated, in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the Report software module shall automatically restart and reload into the resident operating system without any operator intervention.

iArchive:

The iArchive module shall automatically and permanently record the results of all system transactions to the system archive files. The Archive software module shall reside as a separate and distinct database from the history report file and, to insure survivability, shall not be stored on the same computing device nor at the same computing location as the main operating system. It shall be possible to easily review the results of any and all transactions of the system at any time without the possible loss or interruption of the main operating system. The Archive software module shall automatically restart and reload into the resident operating system without any operator intervention.

Scalability:

The life safety event management system shall be designed using open protocol and standard off the shelf technology with the capacity to surpass all current and projected future requirements by at least 500%. The system shall provide software application modules that use open protocol and off the shelf proven technology and shall be specifically designed for multi-building and

municipal facility life safety environments to ensure a minimum 15 year system life of high-performance and reliable service. The system shall provide all required functionality with new or existing alarm monitoring and receiving equipment to monitor, receive, interpret, annunciate, respond, track, dispatch, electronically notify, and manage all life safety events.

System Software:

The software shall be an extensible application using the Microsoft Windows operating system platform. The software shall be provided on a standard platform enabling the system to be integrated with other facility, municipal and campus management systems such as mass notification, paging, CAD, CCTV and video display and IP accessible systems.

Support Documentation:

Provide the following support documentation:

- A network setup guide that establishes the requirements and procedures for site administrators to use when
 - incorporating the system into a network.
- A server installation guide that shows the installation and configuration of the Server.
- History editor and user guide.
- Operators manual including Graphic Compositions.
- A database programming and maintenance manual.
- A quick dispatcher's guide to show basic operator interaction with the system providing the ability to acknowledge
 - events and dispatch personnel.
- A full dispatchers' training course presented in Microsoft PowerPoint format.
- Online, fully indexed and searchable user documentation.

APPENDIX A

PART II

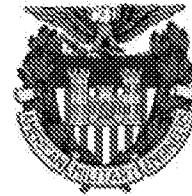
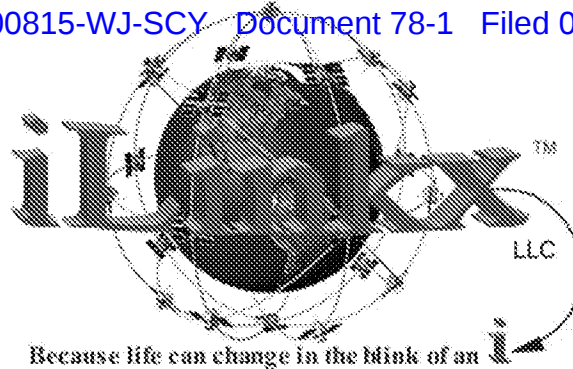
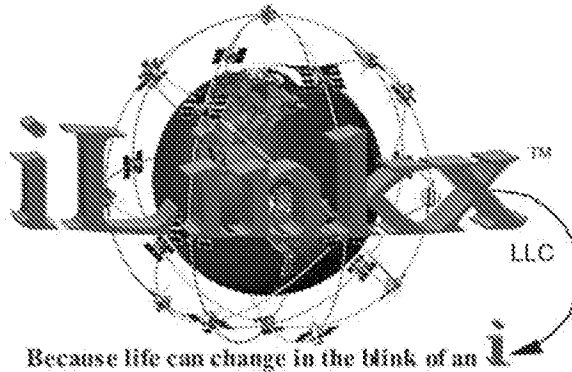



Table of Contents


- 1) iLinkx Promotional Brochure -1
- 2) iLinkx Promotional Brochure - 2
- 3) iLinkx Flow Diagram
- 4) iLinkx Features
- 5) iLinkx Text Message
- 6) iLinkx Colorgraphic .pdf Attachment
- 7) GoBook™ MR-1 Fully-Rugged, Ultra-Mobile Notebook
- 8) Terms & Conditions of Ancilliary Signaling Service Contract Agreement
- 9) Addendum to Ancillary Signaling Service Contract Agreement
- 10) iLinkx Fee Schedule
- 11) iLinkx Signal Receiving & Ancillary Notification System Specifications

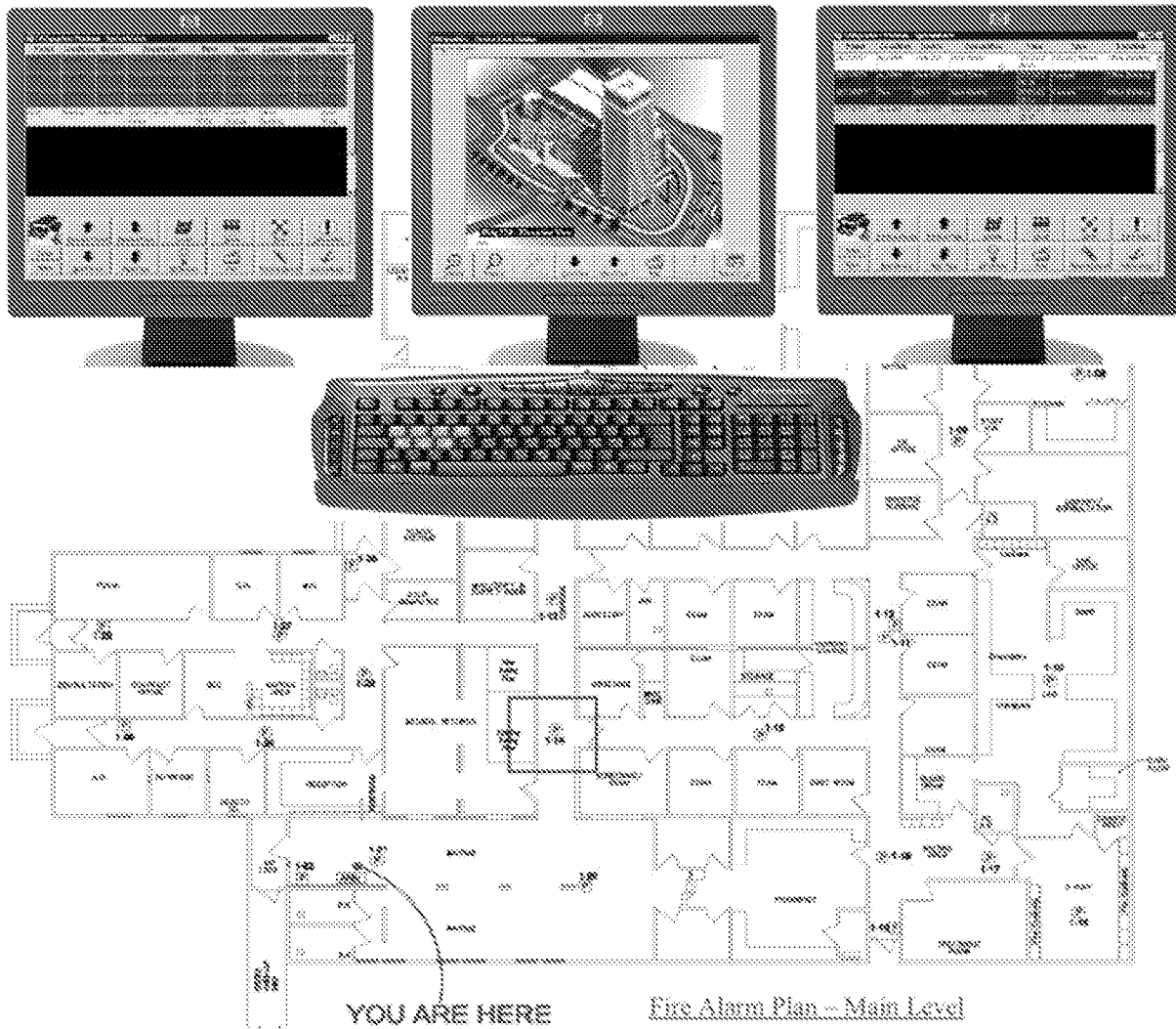


Sustaining member

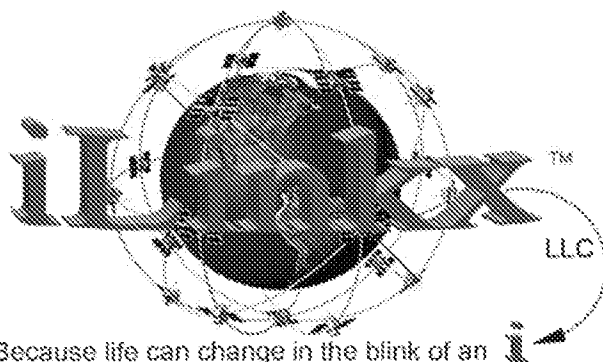
Because life can change in the blink of an ***iLinkx is your connection to critical information***

Use your existing network connection and unleash the power to display critical information as it occurs, in real time with just a few simple clicks. *iLinkx* is ideal for Authorities, Management, and other First Responders. It's a useful tool for conducting maintenance or code compliance testing.

Today's technology offers mobility and *iLinkx* has made that mobility affordable. So the next time you receive a critical signal, simply make a few simple clicks and display it, because life can change in the blink of an 

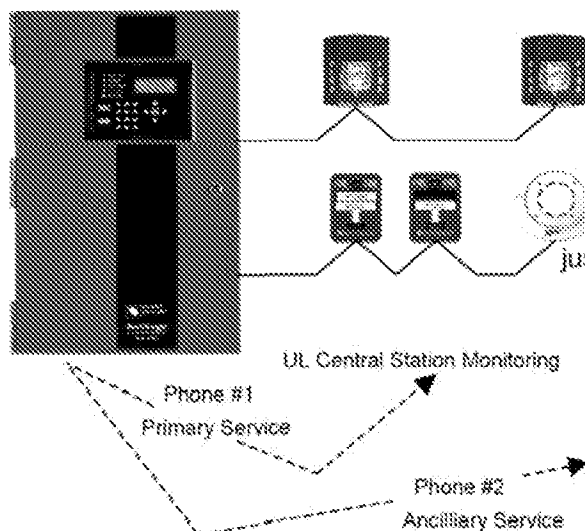


- * Fire & Security Alarms
- * Carbon Monoxide
- * Hazardous Materials
- * As-Built Drawings
- * Emergency Exits
- * Extinguishers
- * Hydrant & Stand Pipes
- * Utility Disconnects



Because life can change in the blink of an i

- * UL Central Station Service
- * Contact ID Format
- * Cell Phone Text Message
- * Browser Compatible
- * Auto Email Notification
- * Graphic Display iLinkx
- * CCTV Video iLinkx
- * Historical Data Reports



Contact ID Reporting Format

iLinkx, accepts signals from existing systems without the need of additional equipment. Information is processed in an ancillary form and is automatically distributed to approved users via iLinkx based text messages & emails. Display, print and share that critical signal information with just a few simple clicks. Because life can change in the blink of an i

iLinkx - Your connection to critical information

Use your existing network connection and unleash the power to display critical information as it occurs, in real time with just a few simple clicks. iLinkx, is ideal for Authorities, Management and other First Responders. It's a useful tool for conducting maintenance and code compliance testing. Today's technology offers mobility and iLinkx has made that mobility an affordable reality. So the next time you receive that critical signal, just make a few simple clicks Because life can change in the blink of an i



First Responders:

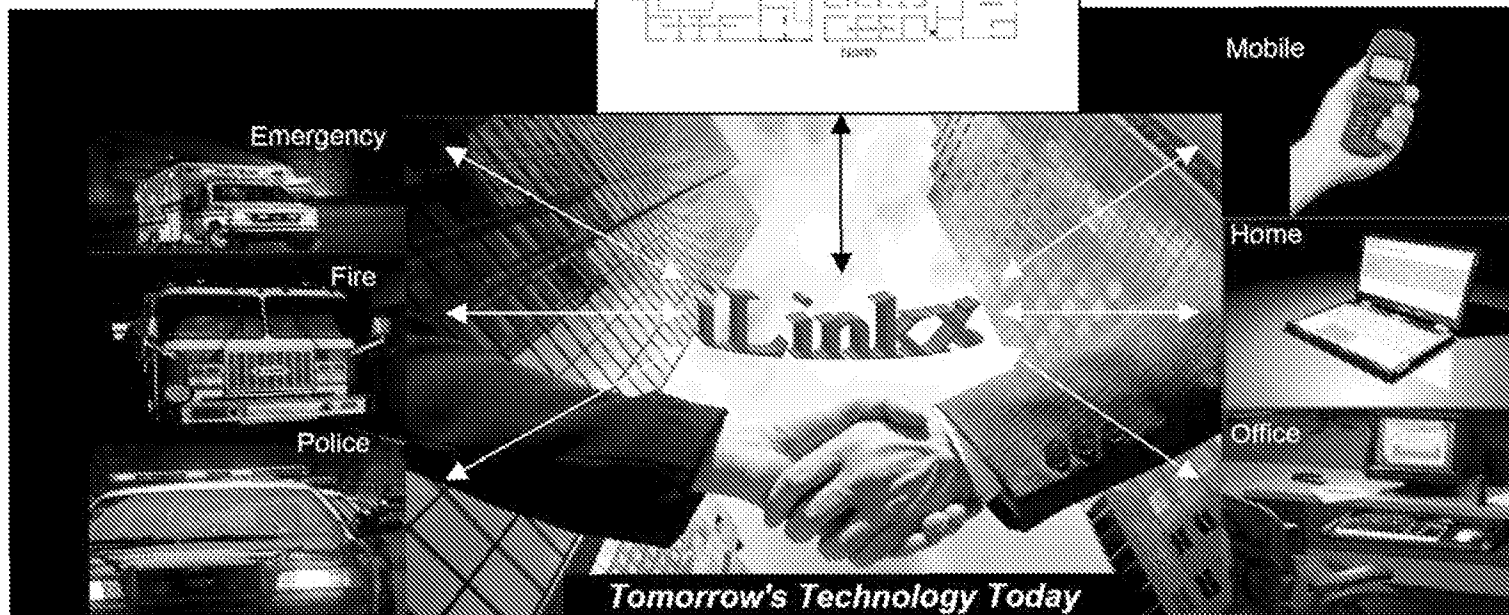
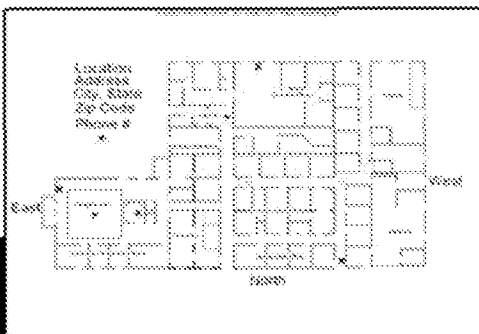
- * Building Floor Plans
- * Hazardous Material Locations
- * Hydrant & Stand Pipe Locations
- * Utility Disconnects

Management:

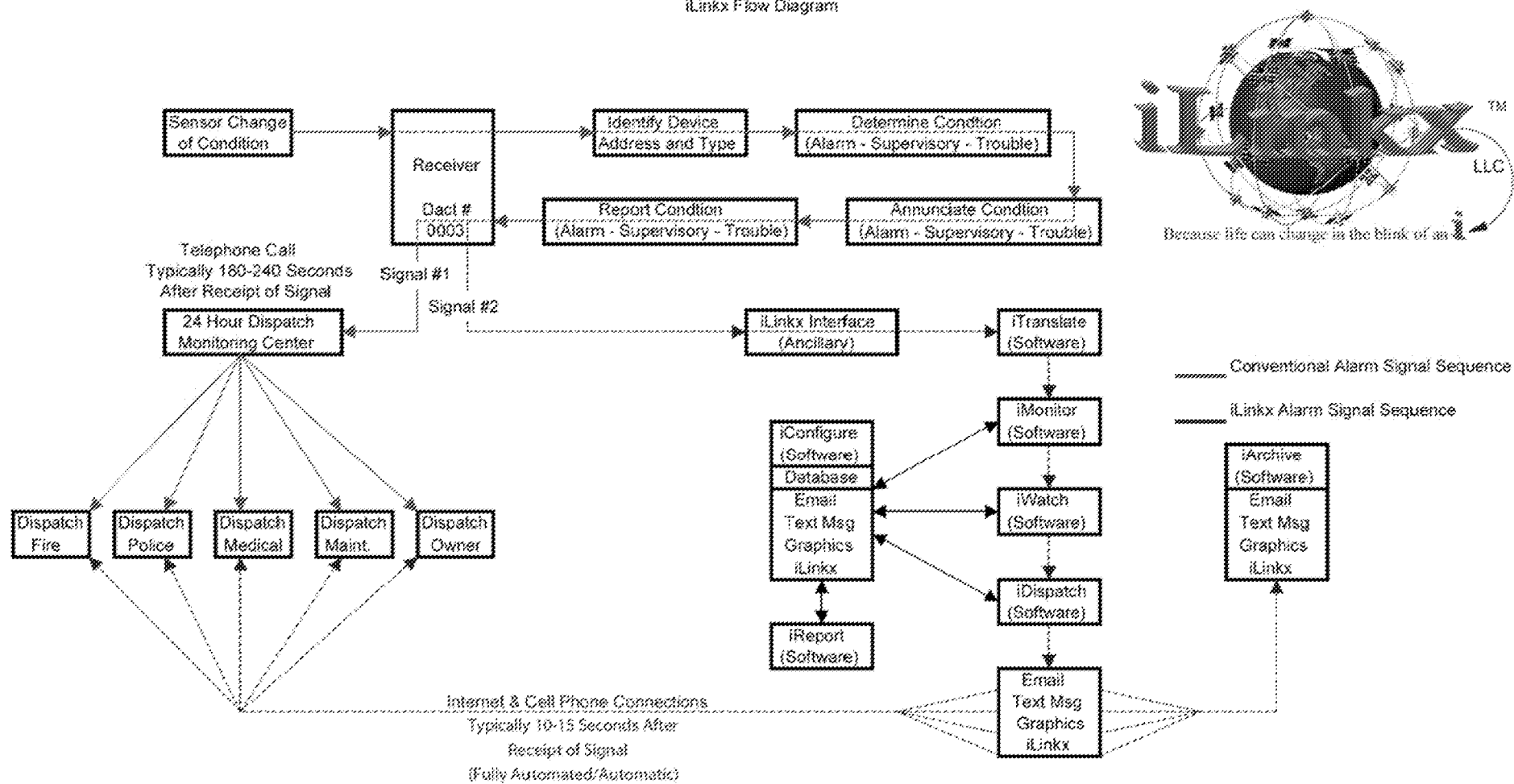
- * Emergency Disaster Plan
- * Building Floor Plans
- * Extinguisher Locations
- * Emergency Exits
- * As-Built Drawings

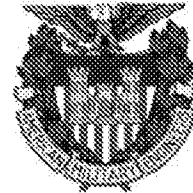
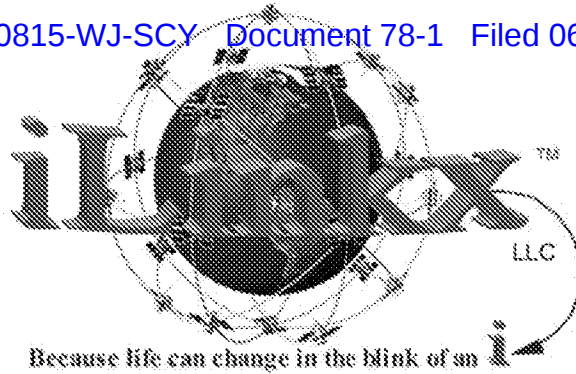
Occupants:

- * Evacuation Procedures
- * Emergency Exits & Stair Wells
- * Designated Handicap Safe Areas



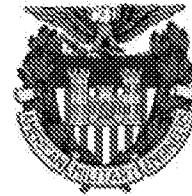
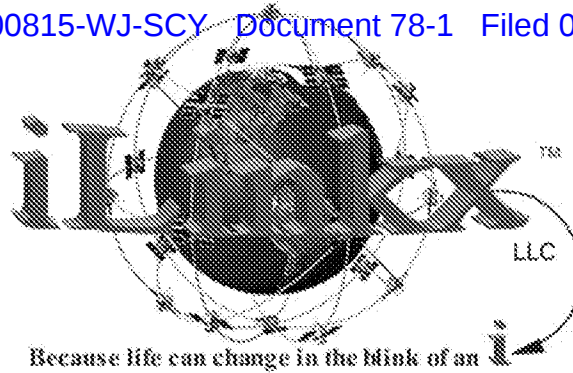
iLinkx Flow Diagram





Features:

- 1) Date & Time Stamped Text Header Line
- 2) Account Identification Number
- 3) Device Address
- 4) Device Type
- 5) Device Condition
- 6) Device Descriptor Information
- 7) Device Encasement
- 8) Site Address & Information
- 9) Meaningful Color Device Icons
- 10) Non-Distorting Color-graphics
- 11) Customized Graphic Information (Hazardous Material Storage, etc.)
- 12) Open Protocol Attachment in easy to receive .pdf Attachment
- 13) Powerful 6400% - 1% Zoom in/out
- 14) Document is editable with Full .pdf version
- 15) Quick Print Document
- 16) Minimal file size for forwarding and archiving



Building 157

001

Photo Detector

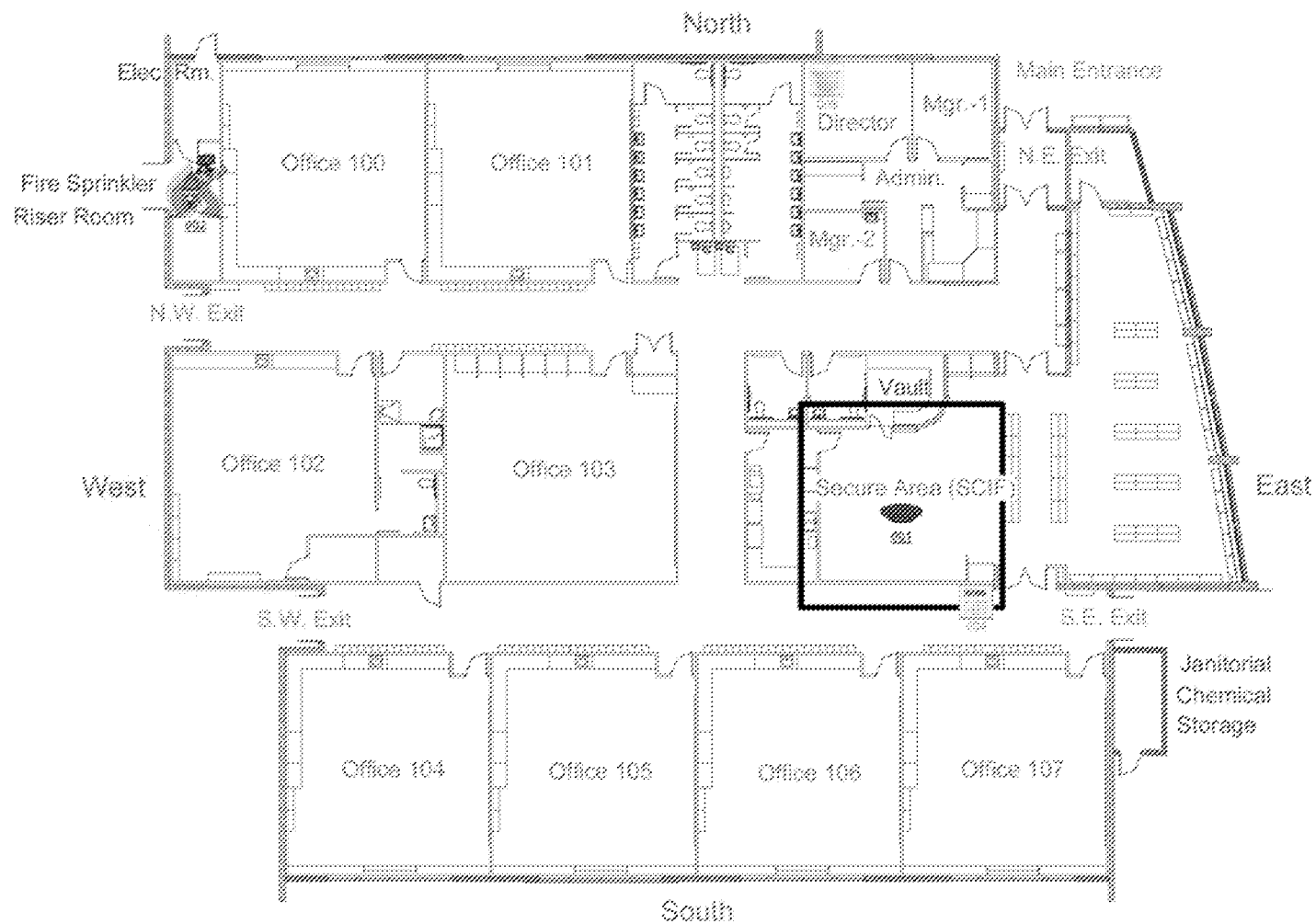
ALARM

Smoke Det. Alarm - SCIF Area - SECURED (TS)

010003 - Site Information: Sunnyvale, California - Building 157 Aeronautics Support Center -

125 Trident Street - PHONE: 714-555-xxxx This is a SECURE FACILITY (TS)

Site Information:
Sunnyvale, CA
Building 157
Aeronautics Support Center
125 Trident Street
PH: 714-555-xxxx



Fire Hydrant
1500 GPM
115' From Building



GoBook® MR-1

POWERFUL

For Today and Years to Come

- Intel® Core Solo; FSB 933 MHz; 1.2 GHz U1400
- Up to 1 GB RAM

RUGGED

Providing for Computing Anywhere, Anytime

- Meets or exceeds MIL-STD 810F
- Sealed against water and dust intrusion (IP54)
- Magnesium alloy casing and impact absorbing exoskeleton
- Crash-tested for in-vehicle safety

WIRELESS

Unparalleled Performance and Flexibility

- WWAN, WLAN, Bluetooth®, and GPS available all in one system
- Leading edge, high speed data transfer
- Coverage even in fringe areas
- Worldwide HSDPA and EVDO (Rev A) cellular support

Fully-Rugged, Ultra-Mobile Notebook

- Seamless roaming for uninterrupted coverage
- Standard mini-card for WWAN and WLAN

ERGONOMIC

Built for Rugged Mobility

- Small and light rugged notebook form factor (2.4 lbs)
- DynaVue® patent-pending touchscreen display for unmatched outdoor viewability
- Ergonomically designed, sealed keyboard
- Dual navigational options: Touchpad / Micro Joystick
- Intuitive design for easy operation

SECURITY

Unmatched Data and Asset Protection

- Multiple user and network authentication options
- Optional Fingerprint reader, optional v 1.2 TPM, file/folder locking
- Multiple asset protection features

GENERAL DYNAMICS
Itronix

Fully-Rugged, Multi-Wireless, Pocket Notebook... with a Big Ultra-Mobile Attitude!

Designed for anywhere, anytime mission-critical computing, the innovative GoBook® MR-1 notebook is as powerful and rugged as it is ergonomic and portable. The GoBook® MR-1 has an Intel® Core Solo 1.2 GHz processor to give it the power to leverage multi-threaded applications and boost overall speed and performance. The GoBook® MR-1 also features unparalleled outdoor viewability with the *patent-pending* DynaVue® technology.

The GoBook® MR-1 is engineered to include innovative expansion module architecture. The optional expansion modules allow the GoBook® MR-1 to integrate additional functionality into the existing base unit, providing expanded flexibility through added I/O capabilities.

The GoBook® MR-1 offers industry leading wireless capabilities, and can simultaneously deploy four integrated radios – including GPS – for the ultimate in wireless coverage. Designed with data security in mind, the GoBook® MR-1 incorporates secure computing features, including a TPM v1.2 (on optional expansion modules), and an optional integrated fingerprint reader.



GoBook MR-1 Product Specifications

Durability Features:

- Meets or exceeds MIL-STD 883F
- Waterproof light (IP64/IEC 60529)
- Die-cast magnesium chassis
- Sealed I/O ports
- SAE J1455 vehicle crash tested (when used with a General Dynamics Itronix certified vehicle dock)

Software:

- Microsoft® Windows® Vista
- Microsoft® Windows® XP

CPU:

- Intel® Core Solo 1.2V
- 1.2 GHz Processor speed
- FSB 533 MHz
- 2MB L2 Cache

Memory:

- 1GB DDR2 DRAM

Video Graphics:

- Up to 128MB dynamically allocated graphics memory

Display:

- 5.6" WSVGA outdoor viewable DynaVue® *patent-pending* display (1024 x 600)
- DynaVue® exceeds the minimum contrast ratio as required for bright sunlight per EOD-STD-3600
- Integrated touchscreen
- 2048 x 1536 through external VSA port through Mini-Office Dock

Storage:

- Choice of 80 GB or optional 80 GB shock mounted 1.8 in. ruggedized SATA HDD
- HDD heater (standard)
- 32 GB or 64 GB Solid State Drive (optional)

Integrated Wireless Communications:

- Up to 3 RF modules and a GPS receiver can be integrated at one time
- Engineered for minimum radio distance to get maximum wireless coverage
- Superior wireless power management
- MobilityKE™ software for secure wireless access and seamless roaming between your wireless or wired WAN and LAN coverage areas

Wireless LAN (Options):

- Intel® PRO/Wireless 3945ABG 802.11 a/b/g network connections
- 2A, 5.0 GHz dual-band diversity antennas
- Authentication: WPA and WPA2, 802.1X (EAP-TLS, EAP, PEAP, LEAP, EAP-FAST, EAP-SIM)
- Encryption: 64-bit and 128-bit WEP, AES, COMB, CKIP, TKIP

Wireless WAN (Options):

- 1xRTT/EVDO or EDGE/UMTS/CDMA
- Mini-card WWAN radio modules
- Integrated 900 - 2500 MHz Multi-Bandwide antennas

Bluetooth® (Options):

- Bluetooth v 2
- Class II
- Integrated antenna

GPS (Options):

- Fully integrated GPS
- High performance quadrifilar helix antenna

Keyboard & Input:

- Ergonomic 76-key sealed keyboard
- Backlit keyboard
- Localized versions available

Audio:

- Internal microphone and (1) speaker with Intel® High Definition Audio

Optional Expansion Modules:

Legacy Port Slice:

- 1 USB 2.0 port
- 1 RS 232 port
- TPM v 1.2

PC Card Slice:

- PC Card slot
- 1 RS 232 port
- 1 1394a port
- TPM v 1.2

Multi-I/O Slice:

- 2 USB 2.0 ports
- 1 RS 232 port
- 1 1394a port
- 1 Ethernet (RJ45) port
- 1 Wireless modem (RJ11) port
- TPM v 1.2

I/O Interface:

- 2.5 mm stereo Smartphone headset audio jack
- USB 2.0

Power Supply:

- 6000 mAh (250Wh) Lithium-Ion "extended" battery pack
- 6 hours with "extended" battery pack
- GoBook Power Cover for user selectable power management optimization

Enhanced Security & Protection:

- Password security: Pre-boot, Supervisor, User
- Trusted Platform Module security chip (TPM v1.2) – on optional expansion modules
- Fingerprint reader (optional)
- Stealth mode: To heat-up without sound/light emissions

Dimensions & Weight:

- 1.8" (H) x 6.6" (W) x 4.8" (D) (45mm (H) x 168mm (W) x 122mm (D))
- 2.4 lbs (1.1 kg)

Accessories:

- Vehicle Dock
- Mini-Office dock
- AC Adapter 5 Cord (45W)
- Vehicle Adapter - 11V - 28V (50W)
- External battery charger
- Carry case

Warranty:

- 3 year warranty

GENERAL DYNAMICS Itronix

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**ILINKX
SIGNAL RECEIVING & ANCILLARY NOTIFICATION
SYSTEM SPECIFICATIONS**

GENERAL:

The iLinkx Receiving and Ancillary Notification System is based on an open market protocol using standard off the shelf hardware and proven application software programs which are comprised of two fully dynamic and integrated components. The first component (Part 1) is the Signal Receiving and Processing Equipment which, through operator intervention and defined procedures, are executed by trained and qualified personnel to accomplish and produce a desired dispatch from the signal or signals received.

The second component (Part 2) is the dynamically integrated Ancillary Notification System which is fully automated and processes its information independently and automatically, to produce the desired dispatch resulting from the signal or signals received, without any operator intervention whatsoever. Systems that do not demonstrate full dynamic integration, in compliance with the requirements of these specifications, will not be considered.

SIGNAL RECIEVING COMPONENT (PART 1)

LISTINGS AND APPROVALS

The system shall be listed by Underwriters Laboratory under Standards 864 (Control Units for Fire-Protective Signaling Systems), 365 (Police Station Connected Burglar-Alarm Units and Systems), and 1076 (Proprietary Burglary-Alarm Units and Systems). The system shall be UL Listed as a CENTRAL and REMOTE SUPERVISING STATION FIRE ALARM SYSTEM per NFPA 72 and as a PROPRIETARY SUPERVISING STATION FIRE ALARM SYSTEM when monitoring inputs other than DACTs. The UL Listing card shall show a (p) for proprietary Fire Alarm (Receiving Unit) under UL 864 category UOJZ.

Each processor controlled system module includes an independent audible trouble signal (watchdog circuit) to indicate microprocessor malfunction. This is referred to as a "Supervised" configuration and is a requirement of the system operation.

Bidders shall provide accurate statements regarding all dimensions, input power requirements, wiring requirements, and all other specifications required to make a complete evaluation of the system being proposed.

The system shall operate reliably in any environment comfortable to the human operator and shall have no special ventilation requirements.

A sufficiently detailed system description, and a detailed drawing shall be furnished with each bid for proper evaluation.

Any variation from these specification requirements shall include a full explanation of all deviations or exceptions taken from the requirements contained within this document on a paragraph by paragraph basis. Bids or proposals that fail to address each paragraph and meet the minimum requirements specified herein, shall be deemed non-responsive and will be rejected.

The Bidder shall be an authorized factory representative for the manufacturer of the equipment and all application software programs specified.

All equipment and application software shall be fully warranted against defects in both materials and workmanship for one year from the date of delivery.

The system shall be configured with the capability of monitoring 9 types of inputs simultaneously without the necessity of adding additional hardware.

1. (DACT) Digital Alarm Communicator Transmitters

The system shall receive alarms from Digital Communicators, Radio Transceivers and Internet Provided Interfaces. The following formats shall be accepted: (SESCOA, VERTEX, DCI, FRANKLIN FAST - 3X1), (SESCOA - 4X3), (RADIONICS HEX - 3X1, MODEM IIIa2 and BFSK), (Old ADEMCO, SILENT KNIGHT SLOW - 3X1), (ACRON - 4X1), (SILENT KNIGHT, NAPCO - 4X2), (CFSK, VFSK, SIA - MODEM), (FBI SUPERFAST, SUR-GARD, ADEMCO HI-SPEED, and (ADEMCO EXPRESS and ADEMCO CONTACT-ID - DTMF). The system shall support up to sixteen (16) incoming receiving lines using combinations of dual port serial I/O modules and line card units.

A Line Card Unit shall contain a dual line Digital Alarm Communicator Receiver phone line card. The phone line(s), line card, and communications to the Line Card Unit shall be fully supervised and provide audible and printed indications of failure. Power on, off-hook and line loss conditions shall also be indicated by LED activity on the Line Card Unit front panel. The software shall support a 128-event buffer for unacknowledged events and up to six (6) hexadecimal digits of account number, four (4) hexadecimal digits of zone number, and 64 three-character event codes per account.

The system shall provide sufficient memory to allow the storage of field programmable English text descriptions for all accounts, their associated event codes, and input zones. The system shall allow up to 40 lines of 32 characters each for every account message, up to 4 lines of 32 characters each for every zone message, and a 16-character descriptor for each event code. Field programmable event code tags shall be available to allow prioritizing of DACT alarm events to insure the most appropriate and expedient response. Optionally, a "GROUP TROUBLE ACKNOWLEDGE" function shall be available. This function shall allow the acknowledging of signals, programmed with the trouble event code tag, as a group when activated by a single operator action from the "touch screen".

The system shall allow 24-hour test codes to be programmed for all compatible formats. The system shall have the ability to accept 24-hour call-in for transmitter verification, and annunciate a FAIL-TO-TEST alarm if the call-in is not received. The call-in time window shall be user selectable from 1 to 168 hours. The system shall receive Opening and Closing signals without operator intervention.

The system software shall allow dialer accounts to be put IN and OUT-OF-SERVICE. If an account is OUT-OF-SERVICE, all incoming transmissions from that account will be ignored. When a dialer account is returned to IN-SERVICE from an OUT-OF-SERVICE condition, all zones will be considered restored to normal at the receiver.

The system software shall support a Dialer Account TEST mode. If a Dialer Account is placed in TEST mode, all incoming signals will be printed in the standard alarm printout format and optionally stored in History. However, there will be no display or audible alert to the operator.

The system shall allow up to 500 dialer alarms to be included in the rotating, sequential, alarm display.

INTERFACING

The system software/hardware shall be available without the Line Card Unit to support interfacing with third party digital receivers.

2. The system shall be capable of receiving serially transmitted alarm signals directly or via modems over dedicated phone lines from remote alarm monitoring systems, digital receivers, or Fire Alarm Control Panels. The communication link shall be supervised and, upon failure, the system shall annunciate a communications failure condition. These alarm signals shall be annunciated in a way that is specific to the type of alarm input received. These alarm signals shall be reported on a prioritized basis per UL 864.

3. The system shall be capable of interfacing to radio systems including the RADSCAN AlarmNet 7810 long range radio receiver, the LARSNET RCI3300 and RCI4000, and the Keltron RF7300 – AES Intellinet receiver, via RS-232c. All received alarms shall be annunciated in a way that is consistent with alarms received from DACTs. All field programmable, fixed field, English text annunciation capabilities and outputs shall be supported. It shall be transparent to the operator whether these events were received via Radio, IP or DACT.

4. The System shall also accept all direct connect and multiplex inputs and support all hardware and software outputs of the receiving System. The inputs accommodated shall include reverse polarity, end-of-line resistor, dry contacts, proprietary tones signals, private line or star multiplex and distributed multiplex as well as coded (McCullough) Fire Alarm signals.

SYSTEM OPERATION

When a change in any of the In-Service inputs occurs, the system shall sound the audible alert, display the appropriate message, and print the appropriate message. In order to silence the audible, the operator must touch the ACK control. Touching this shall cause the audible to silence, and the ACKnowledge message to be printed. This message shall remain displayed until CLEAR is touched, whereupon, the system returns to its regular standby operation. If the operator does not touch ACK, the audible shall continue to sound, but no further printing shall occur for that event.

Inputs that are not in the secure condition shall become part of a display sequence. Every 5.0 seconds, one of the inputs which is in an abnormal state shall be displayed. Touching FAST SCAN shall speed this to once every 1.0 seconds. In addition to non-Secure zones, the sequential or rotating display will include a screen for accounts out-of-service and a screen for accounts in test mode.

SIGNAL OUTPUTS

Relay Outputs - The system shall have the capability of controlling up to 96 normally open or normally closed Form-A relay contacts. The relays shall be mounted 16 to a plug-in circuit board and be accessible from the rear panel. Relay operation is to be completely programmable via the plug-in

keyboard, with provisions for up to four (4) relays being energized by one input. The relays shall have a rating of 400mA at 100VDC, 10VA max. The output connections are to be made by means of a 25 pair standard telephone connector for ease of installation. Relay outputs shall be field programmable by event code for each individual account and will be cleared upon operator acknowledgement.

Transistor Outputs - The system shall have the capability of controlling 288 open collector transistors (OCTs). The OCTs shall be mounted 48 to a plug-in circuit board, and be accessible from the central system processor. OCT operation is to be completely programmable via the plug-in keyboard, with provisions for up to four (4) OCT to be energized by one input. The OCTs shall be able to sink 100ma at 48VDC. The output connections shall be made by means of a 25 pair standard telephone connector for ease of installation. Transistor outputs shall be field programmable by event code for each individual account and will be cleared upon operator acknowledgement.

Auto/Manual Transmitter Output - The system shall have the ability to either automatically or manually transmit a coded signal. There shall be two output relays, and each relay shall be set to any one of sixteen (16) speeds from .25 sec to 4 seconds. The relays shall be rated at 220VDC, 215mA, at 60W max. These coded output relays can be individually set by an internal switch to operate in either Type "A" or Type "B" Mode, with Type "B" mode being defined for Positive Non-Interfering Successive service. The transmission shall be accomplished by either accessing the touch screen for manual output, or by preprogramming individual zone and condition codes via the keyboard for automatic output. Default operational parameters, e.g. speed and number of rounds, shall be set by on-board dip switches which can be overridden by preprogrammed operational parameters for automatic operation. The transmitter shall be a plug-in circuit board that is accessed from the central system processor. Special ALL-OUT and MULTI-ALARM Software applications that transmit specially prefixed coded signals shall be optionally available.

RS232C Output - RS232C ports shall be available which can transmit data upon receipt of an alarm in three modes. Mode 1 will send the 4 lines of the message printed on the internal Dot Matrix Printer. Mode 2 will output the first 10-line display screen from the edited data base message. Modes 1 & 2 shall be printed in 32 or 64 character lines. Mode 3 will output the RS232C data using Radionics protocol to interface to a computer, another monitoring system or a central station automation software package.

Manual Relay Control - As an option, the system shall allow the manual control of relay and transistor outputs by the operator from the Touch Screen. The outputs shall be energized, de-energized, or momentarily energized.

PRINTER

The printer shall have a minimum of 32 columns to allow instructions to be presented in an efficient manner. The instructions should provide a permanent record of an event, including the time and date of an event for recall purposes.

The printer shall allow the dispatcher to have printed messages or sets of instructions, which shall be field programmable. The messages or instructions can be removed from the printer to take to the site of the event for reference purposes

Upon alarm receipt the system will print four fixed lines. The first two lines include an alarm or restoral indication, the account number, a time and date stamp, the alarm receiver number, event code description if programmed, or event code default, and the zone number. The last two lines printed shall be field programmable. They shall be the first line of the account message and the first line of

the zone message. The alarm printout shall be printed in red or black for special emphasis. The acknowledge printout is always black and is the same as the first two lines of the alarm printout, except it indicates acknowledge instead of alarm and prints the time and date of acknowledgement.

For ready availability and low cost, the printer shall be able to use commercially available plain 3" roll paper.

If desired, fanfold paper should be usable to allow collection in a fanfold catch tray.

To assure the permanence of the record, the printout must not fade with time, as is the case with thermally sensitive paper.

DISPLAY

The display shall have "touch screen" operating controls to provide the operator with detailed menu-driven instructions for each operator function and maintenance-free operation.

The display is used to present messages or instructions when an event occurs. The display shall be a cathode ray tube (CRT) at least seven (7) inches in size to allow major details of messages to be presented in a single display.

Character size shall allow the operator to read the display from a distance of ten feet. The CRT shall have an orange or green phosphor screen for lower operator fatigue, and direct etch for glare-free viewing. Video attributes shall be used by the system to segregate the fixed format message display screens. Dialer alarms shall be displayed using a fixed format rather than free format messages as are used for other alarm input types. The event information is displayed in separate fields or areas on the display screen. Some fields shall be mandatory. Other fields shall be optional as programmed by the user.

Mandatory fields include the Account Number, Zone Number, programmable event code, and time and date of event. Un-programmed event codes shall be displayed as received with the word 'CODE'. Programmed event codes will display their 16-character description on the alarm display screen. For SIA and Contact-Id formats, the system will automatically annunciate the event code description.

The system shall allow a total of 296 lines of 32 characters each to be programmed for the account and zone descriptions. The alarm display screen shall allow a total of seven (7) programmed 32 character lines to be displayed. These seven (7) lines shall be a combination of account and zone description message lines. All zone message lines shall display on the alarm and acknowledge screens. The system shall allow a maximum of four (4) zone message lines to be programmed for each zone. This leaves three (3) lines that will be displayed in the account message display window on the alarm screen. At least two (2) lines will be reserved for zone messages, even if blank. The maximum size of the account message window shall be at least five (5) lines. Additional programmed account message lines will be accessible only from the acknowledge display screen. The remainder of the account message shall be scrolled through the account message display window by using the NEXT page and BACK page touch switches.

Unprogrammed account or zone description fields shall be blank. There will be a single alarm display screen for any given dialer event composed of the fixed fields, programmable fields, and the touch screen area.

CLOCK/CALENDAR

The clock portion shall provide military time (24 hour) in hours, minutes and seconds. The calendar shall provide month, day and year. Once set, the calendar shall run automatically with no need to be reset at any time including leap years. A printout shall be made each time the clock/calendar is changed to record that a change was made.

The clock/calendar shall run on 60Hz as available from the power line with its attendant accuracy, averaging less than one second per month deviation. When placed on battery operation, the unit shall automatically switch to a crystal-controlled time base, internally generated, averaging +/- 13 sec/month.

As an option, the system must be capable of synchronizing the real time clock to the National Institute of Standards and Technology (NIST) atomic time standard, via a Synchronized Master Clock from Spectracom or Chronolog Corporation or an approved equal.

MESSAGE CAPABILITY AND EDITING

Messages can be of various sizes. If an average message size is 256 characters, a minimum capacity of 1000 messages shall be provided with the system with expansion to 20,000 messages possible. Each message shall use the message storage area in multiple blocks of 128 characters each, according to its size, to allow for efficient use of memory space. The system shall support a minimum of 3 megabytes of internal memory.

The system memory shall not have to be removed from the system to be erased or programmed. An installer level password shall be required to access system diagnostics which support hardware and memory testing.

Editing shall be accomplished via a full computer-style keyboard. The keyboard can be disconnected without disturbing normal alarm monitoring. Incoming alarms shall interrupt the edit process. After alarm acknowledgement and dispatch, a single control shall be provided to resume the edit process at the point of interruption.

CONTROLS

All controls used in the normal operation of the system shall be long life and non-mechanical.

The controls shall be presented on the face of the CRT. Intersecting that area of the CRT screen displayed as a control, either by touching or by placing a finger or similar object just in front of the screen, shall cause activation of that control. This type of control shall allow multiple uses of the controls area with up to 16 different controls displayed simultaneously. Some indication of control activation shall be provided; either an obvious system action will take place or audible feedback will be provided.

When no changes are being processed, the operator shall be presented with the following controls.

FEED

This shall cause the printer paper to advance.

STOP

This shall cause the display to freeze on the current screen.

FAST

Inputs in an abnormal state shall be displayed sequentially on the CRT screen with a 5 second period. Touching FAST shall cause this period to be 1 second.

NEXT

Touching this control button shall cause the screen to change and display the following control buttons.

DIALER-ACTIVITY

This control shall cause the screen to display a Keypad, allowing the operator to select any programmed dialer account alarm input to the system. All dialer activity status changes shall be accomplished with this control. This includes placing accounts Out-of-Service, In-Service and in Test mode.

DISPLAY MESSAGE

This control shall cause the screen to display a Keypad, allowing the operator to select any alarm input to the system, and to display its programmed display message.

SET CLOCK

This appears only if the key switch is enabled. This control shall cause the screen to display a Keypad, allowing the operator to set the date and time.

PRINT MESSAGE

This control shall cause the screen to display a Keypad, allowing the operator to select any alarm input to the system, and printout its programmed print message.

PRINT

This shall cause "PRINTER OK" plus "TIME & DATE" - to be printed.

LIST

This control shall cause the printer to list the account numbers and the total number of accounts both Out-of-Service and in Test mode.

CLEAR

This control shall cause the display to return to normal display sequencing.

RETURNING TO THE NORMAL DISPLAY SEQUENCE:

STOP

This shall stop the sequential display to allow examination of a particular message. Also, this shall cause the touch area beneath the displayed message to change to include:

CLEAR - This returns the display to its normal sequencing routine.

FEED - This control shall cause the printer paper to advance.

When a change of state occurs, the audible alert sounds and the appropriate messages shall be printed and displayed. Also, this shall cause the touch area beneath the displayed message to change to include:

ACK - Touching this shall cause the Acknowledge message to be printed and displayed and the audible to be silenced. This screen shall also display the FEED control button. After ACK is activated, the screen shall change and display the CLEAR and FEED control buttons.

SOFTWARE OPTIONS

HISTORY - A battery backed internal RAM storage facility in which to automatically record all operations performed by the Receiver shall be provided. Accessibility is menu driven from the keyboard. A minimum of 4080 events shall be provided per single storage facility. Expansion to 16,352 events shall be possible by adding additional memory capacity and a software upgrade. An external computer shall not be required. Actions recorded shall include Alarm Activations, Restorals and Acknowledgements, In/Out Service functions, Clock Set functions, Master Clock failures, Edit sessions, AC loss alarms, Communication failures, and all System Supervisory alarms. The history record shall be printed or displayed in its entirety, or sorted by account, time, type, priority, and date or in any combination thereof.

The system shall be connected to a PC either locally or via modems. A password will be required to permit system access. This connection shall be for the purpose of database backup, restoral, creation, editing, archiving, printing, or remote programming. This connection shall be transparent to the operator and must not affect alarm receiving in any way.

EDITOR PASSWORD - The system shall be capable of providing password protected database access. This shall limit access to the programmed message database to authorized personnel.

BACKGROUND ALARM PROCESSING - The system shall provide the ability to permit alarms from a remotely monitored location to be passed through an operating system on the way to their final destination without operator interruption. If the signal transmission path is interrupted, the last system before the point of interruption becomes the dispatch location.

CALL ASSURANCE CHECK-IN - Optional software shall be available for institutions such as Assisted Living Facilities. The purpose of the "Call-Assurance Check-in" software is to reduce staffing requirements, by automating the supervision of these people who shall be self-reliant, but require daily confirmation of their physical and mental well-being due to their age, physical condition or mental health. With this system, the residents shall be required to manually activate a signal to the receiver. Reception of proper check-in signals on enabled accounts is normally transparent to system operators. The receiving system's receipt of the correct signal validates the monitored persons "up and about" status. The absence of this signal within a predetermined time period will be treated as an alarm. An exception report, containing those accounts that have not yet checked in, is printed automatically upon expiration of the predefined time period. This alarm event printout signifies the need to physically check on those persons who have not yet reported in that they shall be "up and about".

FT-OPTION - The system shall be capable of dedicating any or all operator's consoles to receive a particular alarm type. The Central System Processor, when equipped with a video display, will annunciate all alarm types. The fire alarms shall go to a particular operator's console at the Fire Department, and the Burglary or Hold-Up alarms shall go to a separate operator's console at the Police Department. In the unlikely event of a system failure all alarms will be annunciated on the operational operators console without regard for the FT-Option.

OPERATOR LOG-ON/OFF - The system shall be capable of providing operator accountability by requiring the operator to LOG-ON with a unique password before alarm acknowledgements will be accepted. LOG-ON/OFF activities shall be recorded in the optional system history file.

NETWORKED SYSTEMS - The system shall be capable of supporting the connection of multiple system processors with alarm receiving and dispatch capabilities. Also supported shall be redundant databases with automatic updates between locations and cross-acknowledge functions.

PHYSICAL DETAILS

The Dialup phone line inputs shall be connected to the line card that is cable connected to the central system processor unit. A standard telephone connection shall be used at the system.

The panel operator's unit shall be inclusive to all operators' functions. The panel operator's unit shall run on 24VDC, filtered, regulated power. The power supply shall be mounted remotely from the panel operator's unit, and shall be powered by 115VAC, 60Hz, and provide terminals to float-charge a pair(s) of 12V solid cell batteries. The batteries shall be supervised and an output provided at the power supply for a no/low battery condition. If AC input power fails, the panel operator's unit shall run on batteries without interruption, and an audible alert shall sound indicating battery operation. Any system AC power failure shall cause a supervisory alarm at all panel operators' units as well as at the central processor, if equipped for annunciation.

All phone line inputs will be connected to the central system processor. The central system processor shall be available with no display, a video display, or video display and printer. A maximum of four remote operator's consoles can be provided per system. The operator's console(s) and central system processor will communicate via RS422 for distances to 4000 feet, and via modems for further distances. Operator's consoles will be available with video display only, or video display and hard copy printer. Communications between the processor and the operator's consoles shall be supervised and provide visual and audible indications of failure. System programming shall be accomplished from any operator's console or the system processor with the display option.

Auxiliary Functions

When the paper supply becomes low, the screen shall so indicate by displaying PAPER LOW in the lower right hand quadrant. In addition, the audible alert shall be sounded briefly once per minute. The FEED button becomes an "E" control, which when activated permits access to printer feed and print commands. When the paper supply is exhausted, PAPER OUT shall be indicated, and the alert will be sounded as for PAPER LOW. In this case, no further hard copy record will be available until paper is replenished. Events to be printed will be stored and then printed when the paper is replaced.

Should the printer become jammed, the words HEAD JAM will be indicated, and the alert will be sounded once per minute.

OPTIONAL HARDWARE

Any system module with a CRT Display screen shall be capable of driving an external video monitor via a 75ohm coaxial cable to provide a redundant display only, no controls.

The system shall be capable of interfacing to external line printers via RS-232c, RS-422, or modems. Operating modes one or two shall be selected as well as 32 or 64 character lines. This option shall be added to the operators' consoles or the central processor.

The system shall be capable of transmitting alarm event data to alphanumeric pocket pagers via either an on-site system or off-site commercial paging system provider.

The system shall be capable of interfacing to Central Station Automation Software, PC GRAPHICS, and Computer Aided Dispatch Systems.

The system shall be capable of supporting redundant system processors. The system shall provide a seamless, automatic, switch over function with no loss of account and zone status or database information in the event of primary processor failure.

Life Safety Event Management Software

The system shall provide detailed information and specifications for a single and multi-user life safety event management automation, graphical display, and dispatch system including all required hardware and software. The software enhances the functionality and utility of the alarm receiving systems or third party alarm receiving and monitoring systems.

The life safety event management system integrates proven reliable alarm monitoring systems with state-of-the-art computing technologies to dramatically increase the capabilities of life safety organizations. The system shall provide a highly efficient access to information that shall enable fast and accurate response to life safety situations.

A reliable and versatile Windows-based system combines the most valuable features of central station automation and graphical display software for fire alarm panels, with proven alarm receiving technology to produce a system that meets the mission critical needs of today's life safety industry.

System Architecture - Performance

The system is designed to provide high performance and quick dispatch. The dispatch functions shall be separated from database maintenance and monitoring functions to minimize the impact of administrative requirements on the dispatcher while providing a high degree of security and reporting information to the systems administrator and managing stakeholders.

The modular design of the system architecture makes it robust, scalable and extensible. Modular design shall enable specialized software components to perform specific functions efficiently, quickly and accurately without interference from unrelated components. The architecture is built on a standard operating system, using known interfaces and connection methods, with extensive network and printer support.

The central core of the software architecture is the Event Manager module. The primary function of the Event Manager is to maintain the list of active events and alarms and control access from competing client modules. It shall provide continuous backup shadowing to preserve the latest state of all active events in the unlikely event of system interruption.

The Event Manager module acts as a server for various client modules that can originate, manipulate, or display events. Because it has no database connections and very little dependency on system resources, it is very robust, very efficient and very small. Even when under a load of several thousand alarms, it consumes a small fraction of system resources.

To ensure reliability, and minimize the dependency of any specific function on system resources, individual client applications perform different functions, independent of one another. Examples include:

1. Receiver clients provide the interface to external alarm receiver hardware systems. They manage the unique requirements of the communications link and protocol, isolating these details from the rest of the system, and provide complete event information to the event manager. New receiver clients can be developed with no impact on the Event Manager or any other client module.

2. Supervisory Clients perform specific background tasks such as monitoring periodic device check-in, logging alarms, and monitoring disabled devices and recording events to history
3. User Interface Clients, like the dispatcher, shall be designed to be intuitive for the user.
4. Interconnection Clients connect multiple redundant system functionality.

The clients shall communicate with the Event Manager through a single, well-defined interface. This interface shall provide the same functional connection whether the Event Manager and the clients reside and run on the same machine or on two machines separated by thousands of miles.

System Features

The system shall be capable of receiving alarms from a wide variety of standard industry technologies including active network and long-range radio, star and distributed multiplex style inputs, digital dialers, direct connects, and coded signals. It can also accept alarm inputs directly from industry-standard alarm receivers. The system shall enable fast and efficient communication to the server by providing a customized, ODBC-compliant database that facilitates efficient, accurate alarm dispatching and tracking. Color-coded alarms and custom audio/visual indicators enable instant recognition of the nature and/or severity of an event. Full graphic capabilities enable the user to import graphic files to enhance the dispatcher's speed and accuracy and blinking icons that quickly identify the devices in alarm.

The system shall include an integral history reporting function for analyzing historical trends and tracking false alarms. Powerful and flexible search capabilities enable systems administrators to locate and segregate information by entering one or more key words. The standard, open systems database shall enable the administrator to employ third-party reporting tools to provide custom reports when necessary.

The system Server, shall be a dedicated, rack-mount or tower, high-performance server, forms the core of single- or multi-user systems. Stand-alone or rack-mount PC workstations use a standard Windows-based operating system and components to provide sufficient resources for all installed applications.

The system shall provide an advanced Intel Pentium processor, an 8.4-inch diagonal TFT color display with an optional easy-to-use touch screen or familiar keyboard-and-mouse operation, and an optional quiet thermal printer with automatic take-up.

Mounted in a standard 19-inch rack, the workstation is configured to fit a wide variety of dispatch consoles. External video and printer outputs shall be available to easily incorporate industry-standard printers and large-screen displays. The LAN interface shall enable operator workstations to be networked together with the server.

The expanded networking capabilities enable multiple users to access the system simultaneously with varying levels of privileges to perform many tasks such as maintaining customer account information, reviewing event history and active, on-line alarm dispatching. Internet accessibility is also available for feature additions or remote diagnostics.

Functionality

The system shall provide unique features that meet the wide variety of requirements inherent in the life safety market. The system engineers and product managers shall maintain an extensive schedule of software enhancements shall be generated through ongoing customer and market research.

Supervisory Functions

The supervisory function monitors a variety of types of alarm and system activity including periodic device check-in, out-of-service and test service mode settings, receiver interface communications link integrity, and system status, such as logging, ticket or report printer availability and status.

When the system detects a problem in these areas, the problem is reported to the operators as a supervisory alarm, and includes a detailed description of the out-of-normal condition.

In addition, the Supervisory Client station shall provide event logging and history recording services.

Rotational display screen

The system shall provide a view of all active events by continuously displaying these events at five second intervals. This ensures that unresolved issues shall not be lost or forgotten.

Unlimited accounts

The number of alarms accepted by the system is restricted only by the limits of the computer hardware.

Automatic signal prioritization

The life safety event management software shall automatically prioritizes all alarm signals according to UL standards using programmable event classes.

System response modes

The system shall support programmable response modes including:

1. User - for full system control
2. Auto-log - to alleviate operator interaction
3. Ignore - for automatic discard of received events

Operational and disable modes

The system operator shall set the service mode of any connected panel or device to active, out-of-service or test mode.

In active mode the system will annunciate all events from the panel and its devices, according to the default or programmed colors, sounds and display tab preferences. In out-of-service mode, events shall be tracked and recorded by the system but not reported to the operator. When a panel or device is returned to active mode from out-of-service mode, its last recorded status will be reported to the operator if the device is not restored to normal. When a panel or device is returned to active mode from test mode its last recorded status will not be reported to the operator. Disable modes will have a selectable duration and will automatically lapse or shall be manually cancelled by the operator.

Group acknowledge

The 'group acknowledge' function shall enable the operator to batch acknowledge a group of low priority events such as trouble and restore events, so that higher priority events can be managed expeditiously.

Swinger Suppression

A 'swinger' is an alarm input that constantly toggles between normal and off-normal states presenting hundreds of identical events to the system for processing and operator interaction. The system shall provide a swinger suppression function that prevents the operator from being overloaded with such a huge number of alarms that effective response is impossible. It prevents exhaustion of system resources, even if the system is left unattended for very long periods of time, by reducing the number of spooled printer jobs, and reducing the size of the backup shadow file.

This feature prevents operator frustration and overload by reducing the workload to manageable levels. Thousands of swinger events shall have occurred, but the operator need only respond to the two initial alarms. Swinger suppression prevents the system and operator overload problems by accumulating repeating events together in a single compact form.

When the first trouble event comes in and generates an event on the screen, the system shall sound the audible alert, displays the pending alarm banner, and prints an event record. When the second signal from that alarm is received, if it's the same event code from the same device, no new alarm is generated. If it's a different event from the same device, a new alarm will be generated, printed, logged and, if it is a higher priority (e.g., a fire vs. a trouble) it will take over the pending display.

If the device keeps going back and forth between the trouble and alarm condition, no new pending alarms shall be generated, thus the operator only responds to the pending fire and trouble events.

The history tab shows several pieces of data on that event:

1. The first occurrence of the event
2. The most recent occurrence of the event
3. The number of times the event reoccurred
4. A detailed audit history of the event

After one swinger alarm has been acknowledged, the process starts all over again: the next occurrence of an event will generate a new alarm in the system, but further occurrences will, as above, accumulate into that pending alarm.

Storm mode

Setting the system to 'storm mode' allows certain events, such as those caused by severe weather, to either be auto-acknowledged or ignored for the period of time the system is in this mode. Non-restoral events shall be maintained in rotation until cleared by restoral signals or manual deletion. At the end of this time, the system automatically reverts to normal operations.

The systems administrator can define which classes of events will be affected along with the automatic expiration period for storm mode.

Sounds

Audible (.wav) files shall be imported into the database and linked to incoming alarms for automatic operator notification.

Printing

The system shall use any Windows-supported local or networked printer for the following functions:

Logging - logs every incoming alarm and its acknowledgement with a brief, multi-line line entry. system shall employ line-oriented, impact or thermal printers for this application.

Ticket printing - prints a single page of information about a specific event. A site shall use either line printers or page printers. Ticket printing is a summary of the dispatch information available on different tabs on the screen. It includes the 'banner', i.e., the alarm type, consolidated location summary and time of occurrence, location, personal contact/key holder information, instructions, site location and info, subscriber and locale name.

Report printing - supports printing the hardcopy output from History Editor, Monitor or third-party applications such as Crystal Reports. Either line or page printers can be used, though laser page printers produce higher quality output in shorter time.

Default operation for un-programmed events

The software shall provide full support for an intelligent, operator-friendly display of events arriving from un-programmed sources. The software supports intelligent message interpretation of a variety of industry-standard message types, including Ademco - Contact ID format, direct-connect, distributed multiplexer formats, radio formats and SIA-compliant formats, and understands more than a thousand different messages and variants.

When the system is installed, it not necessary to perform extensive programming in order for the system to be immediately usable for operators. When the system receives a message from any of a variety of industry-standard signaling devices, an intelligent interpretation and display of that event is displayed for the operator. Only the physical location of the monitored system must be programmed.

To facilitate quick event response, instead of presenting obscure event codes, the system clearly displays the nature of the events in prioritized hierarchy. Further programming shall add important functional capability, such as site- and device-specific instructions, customized graphics and audible alerts.

Multi-user features - Remote access

The system shall provide remote access through standard networking protocols over high-speed TCP/IP links. Remote workstations provide the same level of functionality as the host seat, limited only by the system access privileges that shall be determined on an operator-by-operator basis. Open networks employ a recommended hardware router for secure network communications.

Remote stations can be used not only for regular dispatch access, but for system administration and configuration, as well as history maintenance, auditing and reporting.

Security - Operator Privileges

To increase security and ensure compliance with published policies and procedures, the system shall provide multiple levels of privileges for operators, users, guests and administrators. For example, operators shall acknowledge and resolve events but not clear them from the system, or a user must have a given level of privilege to access the history tool.

Dispatching

The system shall provide a main dispatch screen displays all the critical information a dispatcher requires to expedite event management. The system immediately displays the most critical and basic information, with extended support information only a single click away.

Basic dispatch information includes the nature of, location, time and date of the event. Extended information includes complete site description and location information, detailed dispatch instructions for the monitored site, call and contact lists, graphic display information including maps and floor plans showing the exact location and the nature of the alarm, photographs and diagrams, account information, and details that shall be used in diagnosing faulty or run-away devices and managing defend-in-place or hazmat situations.

When an alarm is acknowledged, a programmable dispatch tab appears. Normally, the dispatch tab is displayed showing instructions, location and contact information. This setting does not limit access to the other tabs - the operator shall access any tab by clicking it.

Rotation events shall be programmed to appear by class. Rotation retains the last state of the device. Normally, the system retains all off-normal states including both **Alarms** and **Troubles**. **Restores to Normal**, under these conditions, clears an off-normal event from rotation.

Dispatch Operation

The operator log-in function shall provide an audit trail to track and analyze the alarm monitoring and dispatch function.

The system shall provide an acknowledge screen upon receipt of an event. This first screen displays the nature and location of the event with a programmable color background and a programmable audio component to alert the operator to the type of event.

The second screen that is displayed after operator acknowledgement is the dispatch screen. This screen shall provide detailed information on the type of event, location of the event, and the

recommended response steps and procedure. The system shall be programmed to display prioritized contact information.

The dispatch screen shall provide user access using either a keyboard/mouse or touch screen-activated tabs to the other types of informational screens available to the operator.

1. The 'dispatch' tab returns the operator to the initial dispatch screen.
2. The 'maps' tab shall provide access to graphical depictions of the location and type of event.
3. The 'site' tab shall provide access to information identifying the actual physical location of the monitored system or building and any critical information pertaining to that location such as hazardous materials and any other data specific to that site.
4. The 'notes' tab shall provide the operator with the ability to maintain a running real time record of all action taken and reported in response to the received event.
5. The 'details' tab shall provide the operator or technician with the technical information pertaining to the type of alarm, receiving technology and pertinent notes for that alarm.
6. The 'history' tab shall provide the operator access to the history of that specific event including the event ID, raw event data, time of receipt, time dispatched, source, operator, how many times it was received, and time resolved.

The universally familiar Windows tool bar at the top of the screen shall provide access to the file, service mode and search, event, tools and help pull down menus.

1. The file menu shall provide access to login and logout functions.
2. The service mode menu shall provide access to panel and device control for disabling and enabling alarms.
3. The search menu allows database search by all fields.
4. The tools menu shall enable manual alarm entry and storm mode activation.
5. The help menu shall provide full on-line user documentation.

The operator shall click on the 'alarms pending' window at any time to see list of all events that have been received and shall be pending operator acknowledgement. The operator will see the event priority and shall select an event from the list for acknowledgement, dispatch and resolution.

All resolved events shall be accompanied in history by an operator selected resolution code. This code aids in historical trend analysis.

Programming

Use of the configuration database maintenance application requires the user to log in with a recognized password and privilege level. Logon privileges, as set by the system administrator, determine the level of access to the systems database.

Existing sites or accounts shall be updated or added using the configuration database maintenance application.

The system shall provide the ability to add extended site information such as contacts (key holders, supervisors, and other related personnel), site-specific instructions, detailed explanatory notes, and warnings. In addition, the user shall import and associate graphic images such as maps and floor plans that illustrate this information and can help the dispatcher to quickly and accurately respond to an event.

The system supports programmed receivers, locales, device templates and event categories. Some of this data is pre-configured from the factory. Other data is programmed during the initial setup.

The receiver object is supported by receiver interface software clients. The receiver object shall provide a programmable tab displays such as general, configuration, and locales.

The locale can be associated with a physical entity or several physical entities as well as with a single receiver or multiple receivers.

The user shall be able to add information about the hardware devices that are monitoring that site.

All access to and control of the database maintenance application is provided through two methods: the navigator, which shall provide a graphic-oriented hierarchical view of the database, and the menus. While many functions can be accessed either way, there shall be some that shall be only available through one method.

For those functions accessible by both, the choice is a matter of convenience or preference.

Accessing elements of the database is general and not constrained by how the various elements and layers relate to one another. For example, it is easy to use the search menu to find any device in the system, whereas it shall be simpler to find a device belonging to a particular site using the navigator.

The navigator window is divided into two 'panes'. The left pane shows a hierarchical directory of the database. The right pane displays the detailed contents of each layer selected from the hierarchical directory.

The left pane of the navigator is the Navigator Directory, displaying each level in the database hierarchy. Required for programming a device is an icon and a label for Receivers, Locales, Subscribers, Sites, and Devices, as well as entries for Service Companies, Event Categories, Contacts, Authorities, Operator Groups, Operators and Device Templates. Click any of these and the right window displays the contents of that level.

The Navigator Directory shall provide quick-access functions including; add, search, expand and collapse.

The database maintenance application shall provide a comprehensive menu of functions to provide access control, set display mode, search for items or add new ones, and configure different aspects of the system.

The menus include: file menu, view menu, search menu, new menu, and tools menu.

1. The file menu shall provide the exit function.
2. The view menu shall enable the programmer to choose from iconic, list or detailed viewing of the right navigator pane objects.
3. The search menu shall enable the operator to search for any editable database object.
4. The new menu shall enable the programmer to add an object to the database.
5. The tools menu shall provide dispatch options, printer, storm mode and group dispatch setup.

To add a new site or account to the database, the user should have the following information readily available:

1. General information for the site or account such as the name/description, the account number (if any), physical address and site telephone number.
2. In which Locale the site is located.
3. The type and identification number, account number or hardware address of the hardware that is used to monitor the site; for example, the particular model of radio transceiver or the connection point for a direct-wire device.

4. Optional contact information such as key holder name and phone numbers, graphics information such as maps or floor plans, subscriber information and if the site is one location of several under a single subscriber.

The maintenance application shall enable the user to **pre**-program general support information before adding information for specific signaling devices. Examples include objects such as:

1. Service companies
2. Operator groups and individual operators
3. Event categories
4. Device templates

Each of the major entities in the database (Locales, Subscribers and Sites) shall provide the option of programming a designated service company - the organization responsible for installing, maintaining and upgrading the equipment and systems.

1. The **Locale** object supports authorities, service companies, notes, sites and contacts programming.
2. The **Site** object shall enable general, device, contact, graphic, instruction and note tab programming.
3. The **General** tab allows the programming of information such as address, with locale, service company and subscriber fields being selectable from a list and filling the appropriate field automatically. The site name and ID shall also be programmed on the **General** site tab.
4. While the **Site** represents the monitored area, the devices provide the association between physical messages from a remote sensor and the high-level information about the site.
5. The **Contacts** tab shall enable the programming of call lists and selection of a primary person.
6. The **Graphics** tab shall enable the user to associate graphics such as maps, floor plans or images with the site. The number of graphics that shall be associated with a device is unlimited.
7. The **Instructions** tab shall enable the user to enter site-specific instructions to be displayed to the operator when an event occurs at the site.
8. The **Service Company** entry supports programming entry tabs of clients, contacts, and notes.
9. The system allows devices to be added and shall provide general, zones, event codes, icons, and instructions tabs.
10. Zone information shall come from a template or be programmed individually for each device.
11. The **Event Codes** tab shall provide the connections or mappings between the device's low-level hardware event codes and the pre-programmed event categories.
12. The **Icons** tab shall enable the user to place icons on the graphical images.
13. The **Event Categories** entry generates operator-friendly, comprehensive actions in the database.
14. The **Instructions** tab shall enable the administrator to enter detailed instructions that shall be specific to the device being programmed. The instructions will be displayed along with the event category instructions when the device signals an event.

The system shall allow the user to program direct connect devices as zones. The supported programming tabs shall be general, event codes, icons, and instructions

The **General** tab supports device ID, template selection, site, receiver, location, and zone.

The system shall enable the user to program the subscriber object. The supported programming tabs shall be: general, sites, contacts and notes.

The system shall provide multiple levels of access privileges through the use of operator groups. Each operator group can be assigned different levels of privileges. Individual operators can be added to operator groups, and shall be given the privileges of that group.

The system supports multiple operator groups, each with its own privilege mask combinations.

The system supports the programming of default behavior in response to received events including sounds and colors.

The system shall provide device template architecture. This shall enable the user to program a complex panel or device model only once. Adding new customer accounts using device templates is very fast, efficient and reliable. These features substantially reduce programming time and programming errors all of which minimize setup costs.

The user can easily change global device behavior, such as check-in-times, on multiple devices by changing the device template, reducing ongoing maintenance time and expense.

Template behavior shall be overridden partially or totally for account- or zone-specific behavior through account and zone programming, without invalidating existing templates.

Database

The system includes an ODBC database that shall enable ANSI-compliant SQL access.

Schemas shall be public and published.

An XML importer is functional, to allow the user to import other databases.

The system supplier shall provide online utilities for database maintenance such as backup/restore, version upgrades, and like functions.

Graphic Files

The system shall support multiple graphic file formats. Files shall be attached to an incoming alarm and linked in a hierarchy so navigation, can be performed by the operator. This shall enable the system to receive an alarm and automatically display a street map and/or subsequent graphics of the building, wing, floor, room, and finally to the device icon.

The following file types shall be directly imported into the system:

1. .BMP, .RLE - Windows bitmap graphics files
2. .GIF - Graphics Interchange Format files
3. .JPG, .JPEG - Joint Picture Experts Group format files
4. .PDF - Portable Document Format
5. .WMF, .EMF - Windows graphics metafiles
6. CAD files must be 100% transparent and compatible with these file formats.

The system application software shall support multiple hierarchical graphic images creating important instruction and/or images:

In an emergency situation, multiple hierarchical graphics shall provide the dispatchers with the most accurate and efficient method of understanding the physical situation of an event. This approach to graphical file presentation shall be full dynamic and not put any additional burden on the operator to manage a graphics environment while in the midst of managing with mission-critical events.

The system's graphic structure shall enable the administrator to provide a mix of images: beyond the normal maps and floor plans, the administrator can include photographs of attending personnel or of specific areas, providing the facility optimal flexibility and versatility.

Using dedicated images also minimizes system resource requirements.

Monitor application

The Executive Monitoring utility shall provide the site administrator or supervisor with a way to monitor basic system activity and status from any appropriately-configured local or remote workstation computer. This function shall be available only for monitoring the system status and shall provide no means to directly modify events.

The monitor utility shall provide a display of the following important system activities and states:

1. Active events: all currently active events shall be displayed. Separate windows provide displays of all new, pending, in dispatch, on hold, resolved and in rotation events. Any event can be selected to display the details associated with the event, including extensive site-specific information.
2. Disable devices and zones: Any device which is placed in out-of-service, test or other disable modes is displayed, along with site information and expiration time.
3. Operators: a window displays all logged on operators by operator name, system name and log-in time.

History

The system shall provide full history recording capability. History data is stored to an ODBC-compliant database separate from the main configuration database to minimize impact on the main database resources. This allows the databases to reside on physically separate volumes.

The history system records the following important system events:

1. All real-time events, such as alarms, troubles and restoral's originating from real devices through event receivers
2. Operator-generated manual alarms
3. System-generated supervisory events such as missed check-ins, receiver communications failures, printer faults, etc.
4. Device service mode changes
5. Operator logins and logouts

Where appropriate, a complete history for each event state change, such as acknowledgement, resolution and eventual removal is captured, including details of when the transition occurred, and the operator responsible.

History editor

The system shall include an online history editor and viewer application that shall enable the user to instantly view the contents of the system's history database. Functional features shall include:

1. Search on different criteria, such as locale, subscriber or site name/number, event type, current event status, and dates
2. Sort event display on any displayed attribute
3. View event details of any selected event
4. Add short notations to events (requires appropriate operator privileges)
5. Add updated or final resolution of events (requires appropriate operator privileges)

6. Print a report of selected and sorted events on any networked Windows-based printer. Operator shall choose to print all or just selected events.
7. Erase selected events from history database (requires appropriate operator privileges)

System configurations

The system shall be available in a range of configurations to meet the individual needs of different facilities. These configurations shall be combined in a variety of ways to allow system configurations for alarm monitoring applications ranging from single-package, single user stand-alone or rack systems to full receiving rack-based servers supporting multiple operators over secure LAN and WAN connections.

Systems that are installed on an open network shall be configured to include routers/VPNs at each access point, so as to protect the system from unauthorized access.

System hardware and operational specifications

Standard hardware includes:

- 4U standard rack-mount chassis with integral, dual, hot swap, 400 watt 120/240 VAC power supplies
- ATX form-factor motherboard
- Dual Quad Core Processors
- 8GB of memory, expandable to 32 GB
- SVGA or better display system
- 10/100 LAN Ethernet port
- 10 USB 2.0 ports
- Wireless keyboard and mouse interface
- One parallel port (rear)
- Multiple serial ports
- Internal 3 TB high-capacity disk storage
- 2 - Integral 52X CD-RW drive
- Built-in 8.4" high bright LCD (300 nits)
- Rack-mount keyboard/mouse shelf
- Redundant high-performance, high-reliability SCSI-III multiple-drive RAID configuration with real-time background data shadowing.

ANCILLARY NOTIFICATION COMPONENT (PART 2)

iTranslate

The iTranslate software module shall upon receipt of a signal, translate the format in which the signal was received to determine the designated account number, the specific address of the device sending the signal, the designated type of device, and the condition or state of the device. (Alarm, Supervisory, Trouble, or Restore) Once iTranslated, the information will be automatically processed to the iMonitor software module of the Ancillary Notification System. The iTranslate software module

shall be fully programmable to iTranslate all signals from any manufacturer's panel in an open protocol without the possibility of loss of information or interruption of service. The iTranslate software module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and cannot be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iTranslate module shall automatically restart and reload into the resident operating system without any operator intervention.

iMonitor

The iMonitor software module shall contain the setup information and control all activity logging. Additionally, it shall immediately record a date and time stamp of the signal being received and the post-iTranslated condition of the signal. The information shall be permanently recorded for historical data retrieval at a later date through the use of the iReport software module. The iMonitor software module shall determine and control the overall number of authorized notification points of the Ancillary Notification System by the use of a software authorization access key issued by the manufacturer. The iMonitor software module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and cannot be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iMonitor module shall automatically restart and reload into the resident operating system without any operator intervention.

iWatch

The iWatch software module shall contain all of the dynamic graphic information to be dispatch to the designated recipient's device/s. Upon receipt of a signal, the iWatch software module shall begin an automatic processing sequence of the graphic information to be dispatched. The information shall be automatically and electronically printed in a Portable Document Format (.pdf) and stored for retrieval by other authorized operators. iArchive software folders shall be automatically created to store the .pdf files by event and the date and time that they were received and processed. Each iArchive file shall be individually identified by the respective account number and shall contain the exact date and time to the second of the event. The .pdf file shall be available to be access through common windows programs for viewing and file maintenance requirements. It shall be possible for an authorized operator to view all devices by the simple click of the PC Mouse button contained on the iWatch software display screen. Special maintenance alerts, historical data or any text information shall be separately stored for each device, by authorized operator reference. The iWatch software module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and cannot be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iWatch module shall automatically restart and reload into the resident operating system without any operator intervention.

iDispatch

The iDispatch module shall control all outbound email and text messages to be dispatch to the designated recipient's device/s. The device/s shall include but not be limited to Laptop computers, Desktop computers, Servers, or any internet email addresses, cellular telephones, or Blackberry device, just to name a few. The iDispatch module shall continually monitor all outbound files and upon receipt, dispatch the designated information. The information shall be dispatched in the form of text message/s, .wav file/s, graphical image/s, internet links, hyperlinks, and/or any pre-generated .pdf

document/s. The iDispatch module shall dispatch all formats or any combination thereof in a single dispatch to unlimited recipients. Graphical images shall be dynamic in their operation allowing the recipient/s to zoom in or out of the image with no loss or degradation of the image/s. All signals shall be automatically dispatched, without any operator intervention in under, a total elapsed time of 75 seconds, from start to finish. The time shall be measured from when the actual field device (Smoke Detector, Pull Station, Water Flow, etc.) is activated to when a designated recipient receives the signal. All text message/s, .wav file/s, graphical image/s, internet links, hyperlinks, and/or any pre-generated .pdf document/s shall be device specific and will not be general in content. The specific location and all critical information shall be contained with each device dispatch. The graphic images shall be transmitted in .pdf format, shall be in color, reflecting the device in alarm in red, or device in trouble in yellow. All devices shall be reflected on the graphic image however only the abnormal device will be reflected in it designated color based on its condition. A quick locate feature (Bold Rectangle) shall be automatically generated and provided to draw additional attention to the abnormal device, even in a zoomed out condition. It shall be possible to zoom the image from 1% to 6,600% power or magnification. An iDispatch log file shall be automatically created each and every time a dispatch is made. The iDispatch log file shall be available to be access through common windows programs for viewing and file maintenance requirements. The iDispatch module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and cannot be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iDispatch module shall automatically restart and reload into the resident operating system without any operator intervention.

iConfigure

The iConfigure software module shall be the utility program used for the inputting the configuration of all critical information into the Ancillary Notification System. Access to the program shall be by use of authorized passwords. Authorized personnel must sign on using a hierarchy of authorized password levels that have been established by the Master Administrator. Once signed on, authorized personnel shall have the ability to define each and every aspect of the signal and device characteristics. The iConfigure software module shall have an auto learn feature which enables field devices to be automatically imported into the iConfigure Software, avoiding manual entry of the devices and the associated device descriptor information, not with-standing, in the absence thereof, providing authorized personnel the ability to manually enter the device and descriptor information. All Background images (Graphics) shall be programmed as sublevels of an image zone and an image group. All field devices shall be stored in a master database which shall be accessible easily from standard PC Mouse commands. Adding a device to an image shall consist of three simple mouse clicks to view the entire field device database followed by a simple drag and drop effort onto the respective image. When deleting a device, the deleted device shall be removed from the image but shall be retained in the field device database for future replacement. Editing a device shall allow authorized operators to change the specific device icon size or all of the device icon sizes contained on the image at one time without the necessity of leaving the edit command screen. After any individual or all of the field devices have been placed on an image, it shall be possible to test the dynamic operation of any field device by selecting the device test option. This option shall allow verification of each field device alarm, supervisory, trouble and restoral functions as if it were an authentic change of event being received by the operating system.

iReport

The iReport software module shall allow a full history recap via a windows based report query format structure that can be entered by device address, type, condition, account, or date criterion and/or any combination thereof. All report results shall be displayed in less than 2 seconds, as a standard text

file permitting easy printing in an open protocol, word merging, and/or text management arrangement. It shall also be possible to gather email and text message verification from the iArchive software module database for verification of email and text notification/s. A backup version of the iReport log files shall be fully integrated, in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iReport software module shall automatically restart and reload into the resident operating system without any operator intervention.

iArchive

The iArchive module shall automatically and permanently record the results of all system transactions to the system archive files. The iArchive software module shall reside as a separate and distinct database from the history report file and, to insure survivability, shall not be stored on the same computing device nor at the same computing location as the main operating system. It shall be possible to easily review the results of any and all transactions of the system at any time without the possible loss or interruption of the main operating system. the iArchive software module shall automatically restart and reload into the resident operating system without any operator intervention.

Scalability

The proposed life safety event management system shall be designed using open protocol and standard off the shelf technology with the capacity to surpass all current and projected future requirements by at least 500%. The system shall provide software application modules that use open protocol and off the shelf proven technology and shall be specifically designed for multi-building and municipal facility life safety environments to ensure a minimum 15 year system life of high-performance and reliable service. The system shall provide all required functionality with new or existing alarm monitoring and receiving equipment to monitor, receive, interpret, annunciate, respond, track, dispatch, electronically notify, and manage all life safety events.

Building for the future

The software shall be an extensible application using the Microsoft Windows operating system platform. The software shall be provided on a standard platform enabling the system to be integrated with other facility, municipal and campus management systems such as mass notification, paging, CAD, CCTV and video display and IP accessible systems.

Support Documentation

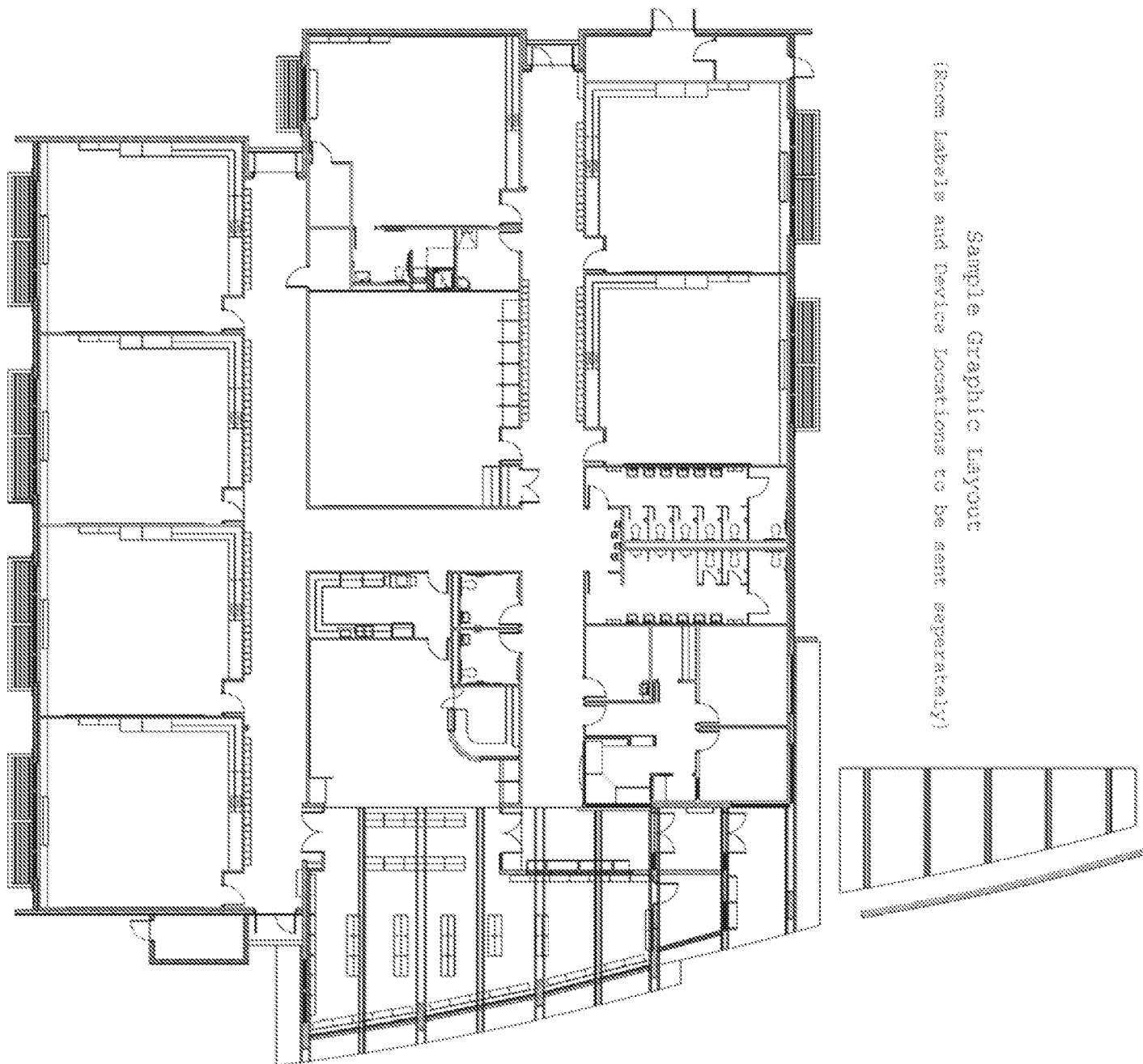
Provide the following support documentation:

- A network setup guide that establishes the requirements and procedures for site administrators to use when incorporating the system into a network.
- A server installation guide that shows the installation and configuration of the Server.
- History editor and user guide.
- Operators manual including Graphic Compositions.
- A database programming and maintenance manual.
- A quick dispatcher's guide to show basic operator interaction with the system providing the ability to acknowledge events and dispatch personnel.
- A full dispatchers' training course presented in Microsoft PowerPoint format.
- Online, fully indexed and searchable user documentation.

4/28/09

Sample Graphic Layout

(Room Labels and Device Locations to be sent separately)



APPENDIX A

PART III

ILINKX
SIGNAL RECEIVING & ANCILLARY NOTIFICATION
SYSTEM SPECIFICATIONS

(Patent Pending)

GENERAL:

The iLinkx Receiving and Ancillary Notification System is based on an open market protocol using standard off the shelf hardware and proven application software programs which are comprised of two fully dynamic and integrated components. The first component (Part 1) is the Signal Receiving and Processing Equipment which, through operator intervention and defined procedures, are executed by trained and qualified personnel to accomplish and produce a desired dispatch from the signal or signals received.

The second component (Part 2) is the dynamically integrated Ancillary Notification System which is fully automated and processes its information independently and automatically, to produce the desired dispatch resulting from the signal or signals received, without any operator intervention whatsoever. Systems that do not demonstrate full dynamic integration, in compliance with the requirements of these specifications, will not be considered.

SIGNAL RECIEVING COMPONENT (PART 1)

LISTINGS AND APPROVALS

The system shall be listed by Underwriters Laboratory under Standards 864 (Control Units for Fire-Protective Signaling Systems), 365 (Police Station Connected Burglar-Alarm Units and Systems), and 1076 (Proprietary Burglary-Alarm Units and Systems). The system shall be UL Listed as a CENTRAL and REMOTE SUPERVISING STATION FIRE ALARM SYSTEM per NFPA 72 and as a PROPRIETARY SUPERVISING STATION FIRE ALARM SYSTEM when monitoring inputs other than DACTs. The UL Listing card shall show a (p) for proprietary Fire Alarm (Receiving Unit) under UL 864 category UOJZ.

Each processor controlled system module includes an independent audible trouble signal (watchdog circuit) to indicate microprocessor malfunction. This is referred to as a "Supervised" configuration and is a requirement of the system operation.

Bidders shall provide accurate statements regarding all dimensions, input power requirements, wiring requirements, and all other specifications required to make a complete evaluation of the system being proposed.

The system shall operate reliably in any environment comfortable to the human operator and shall have no special ventilation requirements.

A sufficiently detailed system description, and a detailed drawing shall be furnished with each bid for proper evaluation.

Any variation from these specification requirements shall include a full explanation of all deviations or exceptions taken from the requirements contained within this document on a paragraph by paragraph basis. Bids or proposals that fail to address each paragraph and meet the minimum requirements specified herein, shall be deemed non-responsive and will be rejected.

The Bidder shall be an authorized factory representative for the manufacturer of the equipment and all application software programs specified.

All equipment and application software shall be fully warranted against defects in both materials and workmanship for one year from the date of delivery.

The system shall be configured with the capability of monitoring 9 types of inputs simultaneously without the necessity of adding additional hardware.

1. (DACT) Digital Alarm Communicator Transmitters

The system shall receive alarms from Digital Communicators, Radio Transceivers and Internet Provided Interfaces. The following formats shall be accepted: (SESCOIA, VERTEX, DCI, FRANKLIN FAST - 3X1), (SESCOIA - 4X3), (RADIONICS HEX - 3X1, MODEM IIIa2 and BFSK), (Old ADEMCO, SILENT KNIGHT SLOW - 3X1), (ACRON - 4X1), (SILENT KNIGHT, NAPCO - 4X2), (CFSK, VFSK, SIA - MODEM), (FBI SUPERFAST, SUR-GARD, ADEMCO HI-SPEED, and (ADEMCO EXPRESS and ADEMCO CONTACT-ID - DTMF). The system shall support up to sixteen (16) incoming receiving lines using combinations of dual port serial I/O modules and line card units.

A Line Card Unit shall contain a dual line Digital Alarm Communicator Receiver phone line card. The phone line(s), line card, and communications to the Line Card Unit shall be fully supervised and provide audible and printed indications of failure. Power on, off-hook and line loss conditions shall also be indicated by LED activity on the Line Card Unit front panel. The software shall support a 128-event buffer for unacknowledged events and up to six (6) hexadecimal digits of account number, four (4) hexadecimal digits of zone number, and 64 three-character event codes per account.

The system shall provide sufficient memory to allow the storage of field programmable English text descriptions for all accounts, their associated event codes, and input zones. The system shall allow up to 40 lines of 32 characters each for every account message, up to 4 lines of 32 characters each for every zone message, and a 16-character descriptor for each event code. Field programmable event code tags shall be available to allow prioritizing of DACT alarm events to insure the most appropriate and expedient response. Optionally, a "GROUP TROUBLE ACKNOWLEDGE" function shall be available. This function shall allow the acknowledging of signals, programmed with the trouble event code tag, as a group when activated by a single operator action from the "touch screen".

The system shall allow 24-hour test codes to be programmed for all compatible formats. The system shall have the ability to accept 24-hour call-in for transmitter verification, and annunciate a FAIL-TO-TEST alarm if the call-in is not received. The call-in time window shall be user selectable from 1 to 168 hours. The system shall receive Opening and Closing signals without operator intervention.

The system software shall allow dialer accounts to be put IN and OUT-OF-SERVICE. If an account is OUT-OF-SERVICE, all incoming transmissions from that account will be ignored. When a dialer account is returned to IN-SERVICE from an OUT-OF-SERVICE condition, all zones will be considered restored to normal at the receiver.

The system software shall support a Dialer Account TEST mode. If a Dialer Account is placed in TEST mode, all incoming signals will be printed in the standard alarm printout format and optionally stored in History. However, there will be no display or audible alert to the operator.

The system shall allow up to 500 dialer alarms to be included in the rotating, sequential, alarm display.

INTERFACING

The system software/hardware shall be available without the Line Card Unit to support interfacing with third party digital receivers.

2. The system shall be capable of receiving serially transmitted alarm signals directly or via modems over dedicated phone lines from remote alarm monitoring systems, digital receivers, or Fire Alarm Control Panels. The communication link shall be supervised and, upon failure, the system shall annunciate a communications failure condition. These alarm signals shall be annunciated in a way that is specific to the type of alarm input received. These alarm signals shall be reported on a prioritized basis per UL 864.

3. The system shall be capable of interfacing to radio systems including the RADSCAN AlarmNet 7810 long range radio receiver, the LARSNET RCI3300 and RCI4000, and the Keltron RF7300 – AES Intellinet receiver, via RS-232c. All received alarms shall be annunciated in a way that is consistent with alarms received from DACTs. All field programmable, fixed field, English text annunciation capabilities and outputs shall be supported. It shall be transparent to the operator whether these events were received via Radio, IP or DACT.

4. The System shall also accept all direct connect and multiplex inputs and support all hardware and software outputs of the receiving System. The inputs accommodated shall include reverse polarity, end-of-line resistor, dry contacts, proprietary tones signals, private line or star multiplex and distributed multiplex as well as coded (McCullough) Fire Alarm signals.

SYSTEM OPERATION

When a change in any of the In-Service inputs occurs, the system shall sound the audible alert, display the appropriate message, and print the appropriate message. In order to silence the audible, the operator must touch the ACK control. Touching this shall cause the audible to silence, and the ACKnowledge message to be printed. This message shall remain displayed until CLEAR is touched, whereupon, the system returns to its regular standby operation. If the operator does not touch ACK, the audible shall continue to sound, but no further printing shall occur for that event.

Inputs that are not in the secure condition shall become part of a display sequence. Every 5.0 seconds, one of the inputs which is in an abnormal state shall be displayed. Touching FAST SCAN shall speed this to once every 1.0 seconds. In addition to non-Secure zones, the sequential or rotating display will include a screen for accounts out-of-service and a screen for accounts in test mode.

SIGNAL OUTPUTS

Relay Outputs - The system shall have the capability of controlling up to 96 normally open or normally closed Form-A relay contacts. The relays shall be mounted 16 to a plug-in circuit board and be accessible from the rear panel. Relay operation is to be completely programmable via the plug-in

keyboard, with provisions for up to four (4) relays being energized by one input. The relays shall have a rating of 400mA at 100VDC, 10VA max. The output connections are to be made by means of a 25 pair standard telephone connector for ease of installation. Relay outputs shall be field programmable by event code for each individual account and will be cleared upon operator acknowledgement.

Transistor Outputs - The system shall have the capability of controlling 288 open collector transistors (OCTs). The OCTs shall be mounted 48 to a plug-in circuit board, and be accessible from the central system processor. OCT operation is to be completely programmable via the plug-in keyboard, with provisions for up to four (4) OCT to be energized by one input. The OCTs shall be able to sink 100ma at 48VDC. The output connections shall be made by means of a 25 pair standard telephone connector for ease of installation. Transistor outputs shall be field programmable by event code for each individual account and will be cleared upon operator acknowledgement.

Auto/Manual Transmitter Output - The system shall have the ability to either automatically or manually transmit a coded signal. There shall be two output relays, and each relay shall be set to any one of sixteen (16) speeds from .25 sec to 4 seconds. The relays shall be rated at 220VDC, 215mA, at 60W max. These coded output relays can be individually set by an internal switch to operate in either Type "A" or Type "B" Mode, with Type "B" mode being defined for Positive Non-Interfering Successive service. The transmission shall be accomplished by either accessing the touch screen for manual output, or by preprogramming individual zone and condition codes via the keyboard for automatic output. Default operational parameters, e.g. speed and number of rounds, shall be set by on-board dip switches which can be overridden by preprogrammed operational parameters for automatic operation. The transmitter shall be a plug-in circuit board that is accessed from the central system processor. Special ALL-OUT and MULTI-ALARM Software applications that transmit specially prefixed coded signals shall be optionally available.

RS232C Output - RS232C ports shall be available which can transmit data upon receipt of an alarm in three modes. Mode 1 will send the 4 lines of the message printed on the internal Dot Matrix Printer. Mode 2 will output the first 10-line display screen from the edited data base message. Modes 1 & 2 shall be printed in 32 or 64 character lines. Mode 3 will output the RS232C data using Radionics protocol to interface to a computer, another monitoring system or a central station automation software package.

Manual Relay Control - As an option, the system shall allow the manual control of relay and transistor outputs by the operator from the Touch Screen. The outputs shall be energized, de-energized, or momentarily energized.

PRINTER

The printer shall have a minimum of 32 columns to allow instructions to be presented in an efficient manner. The instructions should provide a permanent record of an event, including the time and date of an event for recall purposes.

The printer shall allow the dispatcher to have printed messages or sets of instructions, which shall be field programmable. The messages or instructions can be removed from the printer to take to the site of the event for reference purposes

Upon alarm receipt the system will print four fixed lines. The first two lines include an alarm or restoral indication, the account number, a time and date stamp, the alarm receiver number, event code description if programmed, or event code default, and the zone number. The last two lines printed shall be field programmable. They shall be the first line of the account message and the first line of

the zone message. The alarm printout shall be printed in red or black for special emphasis. The acknowledge printout is always black and is the same as the first two lines of the alarm printout, except it indicates acknowledge instead of alarm and prints the time and date of acknowledgement.

For ready availability and low cost, the printer shall be able to use commercially available plain 3" roll paper.

If desired, fanfold paper should be usable to allow collection in a fanfold catch tray.

To assure the permanence of the record, the printout must not fade with time, as is the case with thermally sensitive paper.

DISPLAY

The display shall have "touch screen" operating controls to provide the operator with detailed menu-driven instructions for each operator function and maintenance-free operation.

The display is used to present messages or instructions when an event occurs. The display shall be a cathode ray tube (CRT) at least seven (7) inches in size to allow major details of messages to be presented in a single display.

Character size shall allow the operator to read the display from a distance of ten feet. The CRT shall have an orange or green phosphor screen for lower operator fatigue, and direct etch for glare-free viewing. Video attributes shall be used by the system to segregate the fixed format message display screens. Dialer alarms shall be displayed using a fixed format rather than free format messages as are used for other alarm input types. The event information is displayed in separate fields or areas on the display screen. Some fields shall be mandatory. Other fields shall be optional as programmed by the user.

Mandatory fields include the Account Number, Zone Number, programmable event code, and time and date of event. Un-programmed event codes shall be displayed as received with the word 'CODE'. Programmed event codes will display their 16-character description on the alarm display screen. For SIA and Contact-Id formats, the system will automatically annunciate the event code description.

The system shall allow a total of 296 lines of 32 characters each to be programmed for the account and zone descriptions. The alarm display screen shall allow a total of seven (7) programmed 32 character lines to be displayed. These seven (7) lines shall be a combination of account and zone description message lines. All zone message lines shall display on the alarm and acknowledge screens. The system shall allow a maximum of four (4) zone message lines to be programmed for each zone. This leaves three (3) lines that will be displayed in the account message display window on the alarm screen. At least two (2) lines will be reserved for zone messages, even if blank. The maximum size of the account message window shall be at least five (5) lines. Additional programmed account message lines will be accessible only from the acknowledge display screen. The remainder of the account message shall be scrolled through the account message display window by using the NEXT page and BACK page touch switches.

Unprogrammed account or zone description fields shall be blank. There will be a single alarm display screen for any given dialer event composed of the fixed fields, programmable fields, and the touch screen area.

CLOCK/CALENDAR

The clock portion shall provide military time (24 hour) in hours, minutes and seconds. The calendar shall provide month, day and year. Once set, the calendar shall run automatically with no need to be reset at any time including leap years. A printout shall be made each time the clock/calendar is changed to record that a change was made.

The clock/calendar shall run on 60Hz as available from the power line with its attendant accuracy, averaging less than one second per month deviation. When placed on battery operation, the unit shall automatically switch to a crystal-controlled time base, internally generated, averaging +/- 13 sec/month.

As an option, the system must be capable of synchronizing the real time clock to the National Institute of Standards and Technology (NIST) atomic time standard, via a Synchronized Master Clock from Spectracom or Chronolog Corporation or an approved equal.

MESSAGE CAPABILITY AND EDITING

Messages can be of various sizes. If an average message size is 256 characters, a minimum capacity of 1000 messages shall be provided with the system with expansion to 20,000 messages possible. Each message shall use the message storage area in multiple blocks of 128 characters each, according to its size, to allow for efficient use of memory space. The system shall support a minimum of 3 megabytes of internal memory.

The system memory shall not have to be removed from the system to be erased or programmed. An installer level password shall be required to access system diagnostics which support hardware and memory testing.

Editing shall be accomplished via a full computer-style keyboard. The keyboard can be disconnected without disturbing normal alarm monitoring. Incoming alarms shall interrupt the edit process. After alarm acknowledgement and dispatch, a single control shall be provided to resume the edit process at the point of interruption.

CONTROLS

All controls used in the normal operation of the system shall be long life and non-mechanical.

The controls shall be presented on the face of the CRT. Intersecting that area of the CRT screen displayed as a control, either by touching or by placing a finger or similar object just in front of the screen, shall cause activation of that control. This type of control shall allow multiple uses of the controls area with up to 16 different controls displayed simultaneously. Some indication of control activation shall be provided; either an obvious system action will take place or audible feedback will be provided.

When no changes are being processed, the operator shall be presented with the following controls.

FEED

This shall cause the printer paper to advance.

STOP

This shall cause the display to freeze on the current screen.

FAST

Inputs in an abnormal state shall be displayed sequentially on the CRT screen with a 5 second period. Touching FAST shall cause this period to be 1 second.

NEXT

Touching this control button shall cause the screen to change and display the following control buttons.

DIALER-ACTIVITY

This control shall cause the screen to display a Keypad, allowing the operator to select any programmed dialer account alarm input to the system. All dialer activity status changes shall be accomplished with this control. This includes placing accounts Out-of-Service, In-Service and in Test mode.

DISPLAY MESSAGE

This control shall cause the screen to display a Keypad, allowing the operator to select any alarm input to the system, and to display its programmed display message.

SET CLOCK

This appears only if the key switch is enabled. This control shall cause the screen to display a Keypad, allowing the operator to set the date and time.

PRINT MESSAGE

This control shall cause the screen to display a Keypad, allowing the operator to select any alarm input to the system, and printout its programmed print message.

PRINT

This shall cause "PRINTER OK" plus "TIME & DATE" - to be printed.

LIST

This control shall cause the printer to list the account numbers and the total number of accounts both Out-of-Service and in Test mode.

CLEAR

This control shall cause the display to return to normal display sequencing.

RETURNING TO THE NORMAL DISPLAY SEQUENCE:

STOP

This shall stop the sequential display to allow examination of a particular message. Also, this shall cause the touch area beneath the displayed message to change to include:

CLEAR - This returns the display to its normal sequencing routine.

FEED - This control shall cause the printer paper to advance.

When a change of state occurs, the audible alert sounds and the appropriate messages shall be printed and displayed. Also, this shall cause the touch area beneath the displayed message to change to include:

ACK - Touching this shall cause the Acknowledge message to be printed and displayed and the audible to be silenced. This screen shall also display the FEED control button. After ACK is activated, the screen shall change and display the CLEAR and FEED control buttons.

SOFTWARE OPTIONS

HISTORY - A battery backed internal RAM storage facility in which to automatically record all operations performed by the Receiver shall be provided. Accessibility is menu driven from the keyboard. A minimum of 4080 events shall be provided per single storage facility. Expansion to 16,352 events shall be possible by adding additional memory capacity and a software upgrade. An external computer shall not be required. Actions recorded shall include Alarm Activations, Restorals and Acknowledgements, In/Out Service functions, Clock Set functions, Master Clock failures, Edit sessions, AC loss alarms, Communication failures, and all System Supervisory alarms. The history record shall be printed or displayed in its entirety, or sorted by account, time, type, priority, and date or in any combination thereof.

The system shall be connected to a PC either locally or via modems. A password will be required to permit system access. This connection shall be for the purpose of database backup, restoral, creation, editing, archiving, printing, or remote programming. This connection shall be transparent to the operator and must not affect alarm receiving in any way.

EDITOR PASSWORD - The system shall be capable of providing password protected database access. This shall limit access to the programmed message database to authorized personnel.

BACKGROUND ALARM PROCESSING - The system shall provide the ability to permit alarms from a remotely monitored location to be passed through an operating system on the way to their final destination without operator interruption. If the signal transmission path is interrupted, the last system before the point of interruption becomes the dispatch location.

CALL ASSURANCE CHECK-IN - Optional software shall be available for institutions such as Assisted Living Facilities. The purpose of the "Call-Assurance Check-in" software is to reduce staffing requirements, by automating the supervision of these people who shall be self-reliant, but require daily confirmation of their physical and mental well-being due to their age, physical condition or mental health. With this system, the residents shall be required to manually activate a signal to the receiver. Reception of proper check-in signals on enabled accounts is normally transparent to system operators. The receiving system's receipt of the correct signal validates the monitored persons "up and about" status. The absence of this signal within a predetermined time period will be treated as an alarm. An exception report, containing those accounts that have not yet checked in, is printed automatically upon expiration of the predefined time period. This alarm event printout signifies the need to physically check on those persons who have not yet reported in that they shall be "up and about".

FT-OPTION - The system shall be capable of dedicating any or all operator's consoles to receive a particular alarm type. The Central System Processor, when equipped with a video display, will annunciate all alarm types. The fire alarms shall go to a particular operator's console at the Fire Department, and the Burglary or Hold-Up alarms shall go to a separate operator's console at the Police Department. In the unlikely event of a system failure all alarms will be annunciated on the operational operators console without regard for the FT-Option.

OPERATOR LOG-ON/OFF - The system shall be capable of providing operator accountability by requiring the operator to LOG-ON with a unique password before alarm acknowledgements will be accepted. LOG-ON/OFF activities shall be recorded in the optional system history file.

NETWORKED SYSTEMS - The system shall be capable of supporting the connection of multiple system processors with alarm receiving and dispatch capabilities. Also supported shall be redundant databases with automatic updates between locations and cross-acknowledge functions.

PHYSICAL DETAILS

The Dialup phone line inputs shall be connected to the line card that is cable connected to the central system processor unit. A standard telephone connection shall be used at the system.

The panel operator's unit shall be inclusive to all operators' functions. The panel operator's unit shall run on 24VDC, filtered, regulated power. The power supply shall be mounted remotely from the panel operator's unit, and shall be powered by 115VAC, 60Hz, and provide terminals to float-charge a pair(s) of 12V solid cell batteries. The batteries shall be supervised and an output provided at the power supply for a no/low battery condition. If AC input power fails, the panel operator's unit shall run on batteries without interruption, and an audible alert shall sound indicating battery operation. Any system AC power failure shall cause a supervisory alarm at all panel operators' units as well as at the central processor, if equipped for annunciation.

All phone line inputs will be connected to the central system processor. The central system processor shall be available with no display, a video display, or video display and printer. A maximum of four remote operator's consoles can be provided per system. The operator's console(s) and central system processor will communicate via RS422 for distances to 4000 feet, and via modems for further distances. Operator's consoles will be available with video display only, or video display and hard copy printer. Communications between the processor and the operator's consoles shall be supervised and provide visual and audible indications of failure. System programming shall be accomplished from any operator's console or the system processor with the display option.

Auxiliary Functions

When the paper supply becomes low, the screen shall so indicate by displaying PAPER LOW in the lower right hand quadrant. In addition, the audible alert shall be sounded briefly once per minute. The FEED button becomes an "E" control, which when activated permits access to printer feed and print commands. When the paper supply is exhausted, PAPER OUT shall be indicated, and the alert will be sounded as for PAPER LOW. In this case, no further hard copy record will be available until paper is replenished. Events to be printed will be stored and then printed when the paper is replaced.

Should the printer become jammed, the words HEAD JAM will be indicated, and the alert will be sounded once per minute.

OPTIONAL HARDWARE

Any system module with a CRT Display screen shall be capable of driving an external video monitor via a 75ohm coaxial cable to provide a redundant display only, no controls.

The system shall be capable of interfacing to external line printers via RS-232c, RS-422, or modems. Operating modes one or two shall be selected as well as 32 or 64 character lines. This option shall be added to the operators' consoles or the central processor.

The system shall be capable of transmitting alarm event data to alphanumeric pocket pagers via either an on-site system or off-site commercial paging system provider.

The system shall be capable of interfacing to Central Station Automation Software, PC GRAPHICS, and Computer Aided Dispatch Systems.

The system shall be capable of supporting redundant system processors. The system shall provide a seamless, automatic, switch over function with no loss of account and zone status or database information in the event of primary processor failure.

Life Safety Event Management Software

The system shall provide detailed information and specifications for a single and multi-user life safety event management automation, graphical display, and dispatch system including all required hardware and software. The software enhances the functionality and utility of the alarm receiving systems or third party alarm receiving and monitoring systems.

The life safety event management system integrates proven reliable alarm monitoring systems with state-of-the-art computing technologies to dramatically increase the capabilities of life safety organizations. The system shall provide a highly efficient access to information that shall enable fast and accurate response to life safety situations.

A reliable and versatile Windows-based system combines the most valuable features of central station automation and graphical display software for fire alarm panels, with proven alarm receiving technology to produce a system that meets the mission critical needs of today's life safety industry.

System Architecture - Performance

The system is designed to provide high performance and quick dispatch. The dispatch functions shall be separated from database maintenance and monitoring functions to minimize the impact of administrative requirements on the dispatcher while providing a high degree of security and reporting information to the systems administrator and managing stakeholders.

The modular design of the system architecture makes it robust, scalable and extensible. Modular design shall enable specialized software components to perform specific functions efficiently, quickly and accurately without interference from unrelated components. The architecture is built on a standard operating system, using known interfaces and connection methods, with extensive network and printer support.

The central core of the software architecture is the Event Manager module. The primary function of the Event Manager is to maintain the list of active events and alarms and control access from competing client modules. It shall provide continuous backup shadowing to preserve the latest state of all active events in the unlikely event of system interruption.

The Event Manager module acts as a server for various client modules that can originate, manipulate, or display events. Because it has no database connections and very little dependency on system resources, it is very robust, very efficient and very small. Even when under a load of several thousand alarms, it consumes a small fraction of system resources.

To ensure reliability, and minimize the dependency of any specific function on system resources, individual client applications perform different functions, independent of one another. Examples include:

1. Receiver clients provide the interface to external alarm receiver hardware systems. They manage the unique requirements of the communications link and protocol, isolating these details from the rest of the system, and provide complete event information to the event manager. New receiver clients can be developed with no impact on the Event Manager or any other client module.

2. Supervisory Clients perform specific background tasks such as monitoring periodic device check-in, logging alarms, and monitoring disabled devices and recording events to history
3. User Interface Clients, like the dispatcher, shall be designed to be intuitive for the user.
4. Interconnection Clients connect multiple redundant system functionality.

The clients shall communicate with the Event Manager through a single, well-defined interface. This interface shall provide the same functional connection whether the Event Manager and the clients reside and run on the same machine or on two machines separated by thousands of miles.

System Features

The system shall be capable of receiving alarms from a wide variety of standard industry technologies including active network and long-range radio, star and distributed multiplex style inputs, digital dialers, direct connects, and coded signals. It can also accept alarm inputs directly from industry-standard alarm receivers. The system shall enable fast and efficient communication to the server by providing a customized, ODBC-compliant database that facilitates efficient, accurate alarm dispatching and tracking. Color-coded alarms and custom audio/visual indicators enable instant recognition of the nature and/or severity of an event. Full graphic capabilities enable the user to import graphic files to enhance the dispatcher's speed and accuracy and blinking icons that quickly identify the devices in alarm.

The system shall include an integral history reporting function for analyzing historical trends and tracking false alarms. Powerful and flexible search capabilities enable systems administrators to locate and segregate information by entering one or more key words. The standard, open systems database shall enable the administrator to employ third-party reporting tools to provide custom reports when necessary.

The system Server, shall be a dedicated, rack-mount or tower, high-performance server, forms the core of single- or multi-user systems. Stand-alone or rack-mount PC workstations use a standard Windows-based operating system and components to provide sufficient resources for all installed applications.

The system shall provide an advanced Intel Pentium processor, an 8.4-inch diagonal TFT color display with an optional easy-to-use touch screen or familiar keyboard-and-mouse operation, and an optional quiet thermal printer with automatic take-up.

Mounted in a standard 19-inch rack, the workstation is configured to fit a wide variety of dispatch consoles. External video and printer outputs shall be available to easily incorporate industry-standard printers and large-screen displays. The LAN interface shall enable operator workstations to be networked together with the server.

The expanded networking capabilities enable multiple users to access the system simultaneously with varying levels of privileges to perform many tasks such as maintaining customer account information, reviewing event history and active, on-line alarm dispatching. Internet accessibility is also available for feature additions or remote diagnostics.

Functionality

The system shall provide unique features that meet the wide variety of requirements inherent in the life safety market. The system engineers and product managers shall maintain an extensive schedule of software enhancements shall be generated through ongoing customer and market research.

Supervisory Functions

The supervisory function monitors a variety of types of alarm and system activity including periodic device check-in, out-of-service and test service mode settings, receiver interface communications link integrity, and system status, such as logging, ticket or report printer availability and status.

When the system detects a problem in these areas, the problem is reported to the operators as a supervisory alarm, and includes a detailed description of the out-of-normal condition.

In addition, the Supervisory Client station shall provide event logging and history recording services.

Rotational display screen

The system shall provide a view of all active events by continuously displaying these events at five second intervals. This ensures that unresolved issues shall not be lost or forgotten.

Unlimited accounts

The number of alarms accepted by the system is restricted only by the limits of the computer hardware.

Automatic signal prioritization

The life safety event management software shall automatically prioritizes all alarm signals according to UL standards using programmable event classes.

System response modes

The system shall support programmable response modes including:

1. User - for full system control
2. Auto-log - to alleviate operator interaction
3. Ignore - for automatic discard of received events

Operational and disable modes

The system operator shall set the service mode of any connected panel or device to active, out-of-service or test mode.

In active mode the system will annunciate all events from the panel and its devices, according to the default or programmed colors, sounds and display tab preferences. In out-of-service mode, events shall be tracked and recorded by the system but not reported to the operator. When a panel or device is returned to active mode from out-of-service mode, its last recorded status will be reported to the operator if the device is not restored to normal. When a panel or device is returned to active mode from test mode its last recorded status will not be reported to the operator. Disable modes will have a selectable duration and will automatically lapse or shall be manually cancelled by the operator.

Group acknowledge

The 'group acknowledge' function shall enable the operator to batch acknowledge a group of low priority events such as trouble and restore events, so that higher priority events can be managed expeditiously.

Swinger Suppression

A 'swinger' is an alarm input that constantly toggles between normal and off-normal states presenting hundreds of identical events to the system for processing and operator interaction. The system shall provide a swinger suppression function that prevents the operator from being overloaded with such a huge number of alarms that effective response is impossible. It prevents exhaustion of system resources, even if the system is left unattended for very long periods of time, by reducing the number of spooled printer jobs, and reducing the size of the backup shadow file.

This feature prevents operator frustration and overload by reducing the workload to manageable levels. Thousands of swinger events shall have occurred, but the operator need only respond to the two initial alarms. Swinger suppression prevents the system and operator overload problems by accumulating repeating events together in a single compact form.

When the first trouble event comes in and generates an event on the screen, the system shall sound the audible alert, displays the pending alarm banner, and prints an event record. When the second signal from that alarm is received, if it's the same event code from the same device, no new alarm is generated. If it's a different event from the same device, a new alarm will be generated, printed, logged and, if it is a higher priority (e.g., a fire vs. a trouble) it will take over the pending display.

If the device keeps going back and forth between the trouble and alarm condition, no new pending alarms shall be generated, thus the operator only responds to the pending fire and trouble events.

The history tab shows several pieces of data on that event:

1. The first occurrence of the event
2. The most recent occurrence of the event
3. The number of times the event reoccurred
4. A detailed audit history of the event

After one swinger alarm has been acknowledged, the process starts all over again: the next occurrence of an event will generate a new alarm in the system, but further occurrences will, as above, accumulate into that pending alarm.

Storm mode

Setting the system to 'storm mode' allows certain events, such as those caused by severe weather, to either be auto-acknowledged or ignored for the period of time the system is in this mode. Non-restoral events shall be maintained in rotation until cleared by restoral signals or manual deletion. At the end of this time, the system automatically reverts to normal operations.

The systems administrator can define which classes of events will be affected along with the automatic expiration period for storm mode.

Sounds

Audible (.wav) files shall be imported into the database and linked to incoming alarms for automatic operator notification.

Printing

The system shall use any Windows-supported local or networked printer for the following functions:

Logging - logs every incoming alarm and its acknowledgement with a brief, multi-line line entry. system shall employ line-oriented, impact or thermal printers for this application.

Ticket printing - prints a single page of information about a specific event. A site shall use either line printers or page printers. Ticket printing is a summary of the dispatch information available on different tabs on the screen. It includes the 'banner', i.e., the alarm type, consolidated location summary and time of occurrence, location, personal contact/key holder information, instructions, site location and info, subscriber and locale name.

Report printing - supports printing the hardcopy output from History Editor, Monitor or third-party applications such as Crystal Reports. Either line or page printers can be used, though laser page printers produce higher quality output in shorter time.

Default operation for un-programmed events

The software shall provide full support for an intelligent, operator-friendly display of events arriving from un-programmed sources. The software supports intelligent message interpretation of a variety of industry-standard message types, including Ademco - Contact ID format, direct-connect, distributed multiplexer formats, radio formats and SIA-compliant formats, and understands more than a thousand different messages and variants.

When the system is installed, it not necessary to perform extensive programming in order for the system to be immediately usable for operators. When the system receives a message from any of a variety of industry-standard signaling devices, an intelligent interpretation and display of that event is displayed for the operator. Only the physical location of the monitored system must be programmed.

To facilitate quick event response, instead of presenting obscure event codes, the system clearly displays the nature of the events in prioritized hierarchy. Further programming shall add important functional capability, such as site- and device-specific instructions, customized graphics and audible alerts.

Multi-user features - Remote access

The system shall provide remote access through standard networking protocols over high-speed TCP/IP links. Remote workstations provide the same level of functionality as the host seat, limited only by the system access privileges that shall be determined on an operator-by-operator basis. Open networks employ a recommended hardware router for secure network communications.

Remote stations can be used not only for regular dispatch access, but for system administration and configuration, as well as history maintenance, auditing and reporting.

Security - Operator Privileges

To increase security and ensure compliance with published policies and procedures, the system shall provide multiple levels of privileges for operators, users, guests and administrators. For example, operators shall acknowledge and resolve events but not clear them from the system, or a user must have a given level of privilege to access the history tool.

Dispatching

The system shall provide a main dispatch screen displays all the critical information a dispatcher requires to expedite event management. The system immediately displays the most critical and basic information, with extended support information only a single click away.

Basic dispatch information includes the nature of, location, time and date of the event. Extended information includes complete site description and location information, detailed dispatch instructions for the monitored site, call and contact lists, graphic display information including maps and floor plans showing the exact location and the nature of the alarm, photographs and diagrams, account information, and details that shall be used in diagnosing faulty or run-away devices and managing defend-in-place or hazmat situations.

When an alarm is acknowledged, a programmable dispatch tab appears. Normally, the dispatch tab is displayed showing instructions, location and contact information. This setting does not limit access to the other tabs - the operator shall access any tab by clicking it.

Rotation events shall be programmed to appear by class. Rotation retains the last state of the device. Normally, the system retains all off-normal states including both **Alarms** and **Troubles**. **Restores to Normal**, under these conditions, clears an off-normal event from rotation.

Dispatch Operation

The operator log-in function shall provide an audit trail to track and analyze the alarm monitoring and dispatch function.

The system shall provide an acknowledge screen upon receipt of an event. This first screen displays the nature and location of the event with a programmable color background and a programmable audio component to alert the operator to the type of event.

The second screen that is displayed after operator acknowledgement is the dispatch screen. This screen shall provide detailed information on the type of event, location of the event, and the

recommended response steps and procedure. The system shall be programmed to display prioritized contact information.

The dispatch screen shall provide user access using either a keyboard/mouse or touch screen-activated tabs to the other types of informational screens available to the operator.

1. The 'dispatch' tab returns the operator to the initial dispatch screen.
2. The 'maps' tab shall provide access to graphical depictions of the location and type of event.
3. The 'site' tab shall provide access to information identifying the actual physical location of the monitored system or building and any critical information pertaining to that location such as hazardous materials and any other data specific to that site.
4. The 'notes' tab shall provide the operator with the ability to maintain a running real time record of all action taken and reported in response to the received event.
5. The 'details' tab shall provide the operator or technician with the technical information pertaining to the type of alarm, receiving technology and pertinent notes for that alarm.
6. The 'history' tab shall provide the operator access to the history of that specific event including the event ID, raw event data, time of receipt, time dispatched, source, operator, how many times it was received, and time resolved.

The universally familiar Windows tool bar at the top of the screen shall provide access to the file, service mode and search, event, tools and help pull down menus.

1. The file menu shall provide access to login and logout functions.
2. The service mode menu shall provide access to panel and device control for disabling and enabling alarms.
3. The search menu allows database search by all fields.
4. The tools menu shall enable manual alarm entry and storm mode activation.
5. The help menu shall provide full on-line user documentation.

The operator shall click on the 'alarms pending' window at any time to see list of all events that have been received and shall be pending operator acknowledgement. The operator will see the event priority and shall select an event from the list for acknowledgement, dispatch and resolution.

All resolved events shall be accompanied in history by an operator selected resolution code. This code aids in historical trend analysis.

Programming

Use of the configuration database maintenance application requires the user to log in with a recognized password and privilege level. Logon privileges, as set by the system administrator, determine the level of access to the systems database.

Existing sites or accounts shall be updated or added using the configuration database maintenance application.

The system shall provide the ability to add extended site information such as contacts (key holders, supervisors, and other related personnel), site-specific instructions, detailed explanatory notes, and warnings. In addition, the user shall import and associate graphic images such as maps and floor plans that illustrate this information and can help the dispatcher to quickly and accurately respond to an event.

The system supports programmed receivers, locales, device templates and event categories. Some of this data is pre-configured from the factory. Other data is programmed during the initial setup.

The receiver object is supported by receiver interface software clients. The receiver object shall provide a programmable tab displays such as general, configuration, and locales.

The locale can be associated with a physical entity or several physical entities as well as with a single receiver or multiple receivers.

The user shall be able to add information about the hardware devices that are monitoring that site.

All access to and control of the database maintenance application is provided through two methods: the navigator, which shall provide a graphic-oriented hierarchical view of the database, and the menus. While many functions can be accessed either way, there shall be some that shall be only available through one method.

For those functions accessible by both, the choice is a matter of convenience or preference.

Accessing elements of the database is general and not constrained by how the various elements and layers relate to one another. For example, it is easy to use the search menu to find any device in the system, whereas it shall be simpler to find a device belonging to a particular site using the navigator.

The navigator window is divided into two 'panes'. The left pane shows a hierarchical directory of the database. The right pane displays the detailed contents of each layer selected from the hierarchical directory.

The left pane of the navigator is the Navigator Directory, displaying each level in the database hierarchy. Required for programming a device is an icon and a label for Receivers, Locales, Subscribers, Sites, and Devices, as well as entries for Service Companies, Event Categories, Contacts, Authorities, Operator Groups, Operators and Device Templates. Click any of these and the right window displays the contents of that level.

The Navigator Directory shall provide quick-access functions including; add, search, expand and collapse.

The database maintenance application shall provide a comprehensive menu of functions to provide access control, set display mode, search for items or add new ones, and configure different aspects of the system.

The menus include: file menu, view menu, search menu, new menu, and tools menu.

1. The file menu shall provide the exit function.
2. The view menu shall enable the programmer to choose from iconic, list or detailed viewing of the right navigator pane objects.
3. The search menu shall enable the operator to search for any editable database object.
4. The new menu shall enable the programmer to add an object to the database.
5. The tools menu shall provide dispatch options, printer, storm mode and group dispatch setup.

To add a new site or account to the database, the user should have the following information readily available:

1. General information for the site or account such as the name/description, the account number (if any), physical address and site telephone number.
2. In which Locale the site is located.
3. The type and identification number, account number or hardware address of the hardware that is used to monitor the site; for example, the particular model of radio transceiver or the connection point for a direct-wire device.

4. Optional contact information such as key holder name and phone numbers, graphics information such as maps or floor plans, subscriber information and if the site is one location of several under a single subscriber.

The maintenance application shall enable the user to *pre*-program general support information before adding information for specific signaling devices. Examples include objects such as:

1. Service companies
2. Operator groups and individual operators
3. Event categories
4. Device templates

Each of the major entities in the database (Locales, Subscribers and Sites) shall provide the option of programming a designated service company - the organization responsible for installing, maintaining and upgrading the equipment and systems.

1. The **Locale** object supports authorities, service companies, notes, sites and contacts programming.
2. The **Site** object shall enable general, device, contact, graphic, instruction and note tab programming.
3. The **General** tab allows the programming of information such as address, with locale, service company and subscriber fields being selectable from a list and filling the appropriate field automatically. The site name and ID shall also be programmed on the **General** site tab.
4. While the **Site** represents the monitored area, the devices provide the association between physical messages from a remote sensor and the high-level information about the site.
5. The **Contacts** tab shall enable the programming of call lists and selection of a primary person.
6. The **Graphics** tab shall enable the user to associate graphics such as maps, floor plans or images with the site. The number of graphics that shall be associated with a device is unlimited.
7. The **Instructions** tab shall enable the user to enter site-specific instructions to be displayed to the operator when an event occurs at the site.
8. The **Service Company** entry supports programming entry tabs of clients, contacts, and notes.
9. The system allows devices to be added and shall provide general, zones, event codes, icons, and instructions tabs.
10. Zone information shall come from a template or be programmed individually for each device.
11. The **Event Codes** tab shall provide the connections or mappings between the device's low-level hardware event codes and the pre-programmed event categories.
12. The **Icons** tab shall enable the user to place icons on the graphical images.
13. The **Event Categories** entry generates operator-friendly, comprehensive actions in the database.
14. The **Instructions** tab shall enable the administrator to enter detailed instructions that shall be specific to the device being programmed. The instructions will be displayed along with the event category instructions when the device signals an event.

The system shall allow the user to program direct connect devices as zones. The supported programming tabs shall be general, event codes, icons, and instructions

The **General** tab supports device ID, template selection, site, receiver, location, and zone.

The system shall enable the user to program the subscriber object. The supported programming tabs shall be: general, sites, contacts and notes.

The system shall provide multiple levels of access privileges through the use of operator groups. Each operator group can be assigned different levels of privileges. Individual operators can be added to operator groups, and shall be given the privileges of that group.

The system supports multiple operator groups, each with its own privilege mask combinations.

The system supports the programming of default behavior in response to received events including sounds and colors.

The system shall provide device template architecture. This shall enable the user to program a complex panel or device model only once. Adding new customer accounts using device templates is very fast, efficient and reliable. These features substantially reduce programming time and programming errors all of which minimize setup costs.

The user can easily change global device behavior, such as check-in-times, on multiple devices by changing the device template, reducing ongoing maintenance time and expense.

Template behavior shall be overridden partially or totally for account- or zone-specific behavior through account and zone programming, without invalidating existing templates.

Database

The system includes an ODBC database that shall enable ANSI-compliant SQL access.

Schemas shall be public and published.

An XML importer is functional, to allow the user to import other databases.

The system supplier shall provide online utilities for database maintenance such as backup/restore, version upgrades, and like functions.

Graphic Files

The system shall support multiple graphic file formats. Files shall be attached to an incoming alarm and linked in a hierarchy so navigation, can be performed by the operator. This shall enable the system to receive an alarm and automatically display a street map and/or subsequent graphics of the building, wing, floor, room, and finally to the device icon.

The following file types shall be directly imported into the system:

1. .BMP, .RLE - Windows bitmap graphics files
2. .GIF - Graphics Interchange Format files
3. .JPG, .JPEG - Joint Picture Experts Group format files
4. .PDF - Portable Document Format
5. .WMF, .EMF - Windows graphics metafiles
6. CAD files must be 100% transparent and compatible with these file formats.

The system application software shall support multiple hierarchical graphic images creating important instruction and/or images:

In an emergency situation, multiple hierarchical graphics shall provide the dispatchers with the most accurate and efficient method of understanding the physical situation of an event. This approach to graphical file presentation shall be full dynamic and not put any additional burden on the operator to manage a graphics environment while in the midst of managing with mission-critical events.

The system's graphic structure shall enable the administrator to provide a mix of images: beyond the normal maps and floor plans, the administrator can include photographs of attending personnel or of specific areas, providing the facility optimal flexibility and versatility.

Using dedicated images also minimizes system resource requirements.

Monitor application

The Executive Monitoring utility shall provide the site administrator or supervisor with a way to monitor basic system activity and status from any appropriately-configured local or remote workstation computer. This function shall be available only for monitoring the system status and shall provide no means to directly modify events.

The monitor utility shall provide a display of the following important system activities and states:

1. Active events: all currently active events shall be displayed. Separate windows provide displays of all new, pending, in dispatch, on hold, resolved and in rotation events. Any event can be selected to display the details associated with the event, including extensive site-specific information.
2. Disable devices and zones: Any device which is placed in out-of-service, test or other disable modes is displayed, along with site information and expiration time.
3. Operators: a window displays all logged on operators by operator name, system name and log-in time.

History

The system shall provide full history recording capability. History data is stored to an ODBC-compliant database separate from the main configuration database to minimize impact on the main database resources. This allows the databases to reside on physically separate volumes.

The history system records the following important system events:

1. All real-time events, such as alarms, troubles and restoral's originating from real devices through event receivers
2. Operator-generated manual alarms
3. System-generated supervisory events such as missed check-ins, receiver communications failures, printer faults, etc.
4. Device service mode changes
5. Operator logins and logouts

Where appropriate, a complete history for each event state change, such as acknowledgement, resolution and eventual removal is captured, including details of when the transition occurred, and the operator responsible.

History editor

The system shall include an online history editor and viewer application that shall enable the user to instantly view the contents of the system's history database. Functional features shall include:

1. Search on different criteria, such as locale, subscriber or site name/number, event type, current event status, and dates
2. Sort event display on any displayed attribute
3. View event details of any selected event
4. Add short notations to events (requires appropriate operator privileges)
5. Add updated or final resolution of events (requires appropriate operator privileges)

6. Print a report of selected and sorted events on any networked Windows-based printer. Operator shall choose to print all or just selected events.
7. Erase selected events from history database (requires appropriate operator privileges)

System configurations

The system shall be available in a range of configurations to meet the individual needs of different facilities. These configurations shall be combined in a variety of ways to allow system configurations for alarm monitoring applications ranging from single-package, single user stand-alone or rack systems to full receiving rack-based servers supporting multiple operators over secure LAN and WAN connections.

Systems that are installed on an open network shall be configured to include routers/VPNs at each access point, so as to protect the system from unauthorized access.

System hardware and operational specifications

Standard hardware includes:

- 4U standard rack-mount chassis with integral, dual, hot swap, 400 watt 120/240 VAC power supplies
- ATX form-factor motherboard
- Dual Quad Core Processors
- 8GB of memory, expandable to 32 GB
- SVGA or better display system
- 10/100 LAN Ethernet port
- 10 USB 2.0 ports
- Wireless keyboard and mouse interface
- One parallel port (rear)
- Multiple serial ports
- Internal 3 TB high-capacity disk storage
- 2 - Integral 52X CD-RW drive
- Built-in 8.4" high bright LCD (300 nits)
- Rack-mount keyboard/mouse shelf
- Redundant high-performance, high-reliability SCSI-III multiple-drive RAID configuration with real-time background data shadowing.

ANCILLARY NOTIFICATION COMPONENT (PART 2)

iTranslate

The iTranslate software module shall upon receipt of a signal, translate the format in which the signal was received to determine the designated account number, the specific address of the device sending the signal, the designated type of device, and the condition or state of the device. (Alarm, Supervisory, Trouble, or Restore) Once iTranslated, the information will be automatically processed to the iMonitor software module of the Ancillary Notification System. The iTranslate software module

shall be fully programmable to iTranslate all signals from any manufacturer's panel in an open protocol without the possibility of loss of information or interruption of service. The iTranslate software module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and cannot be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iTranslate module shall automatically restart and reload into the resident operating system without any operator intervention.

iMonitor

The iMonitor software module shall contain the setup information and control all activity logging. Additionally, it shall immediately record a date and time stamp of the signal being received and the post-iTranslated condition of the signal. The information shall be permanently recorded for historical data retrieval at a later date through the use of the iReport software module. The iMonitor software module shall determine and control the overall number of authorized notification points of the Ancillary Notification System by the use of a software authorization access key issued by the manufacturer. The iMonitor software module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and cannot be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iMonitor module shall automatically restart and reload into the resident operating system without any operator intervention.

iWatch

The iWatch software module shall contain all of the dynamic graphic information to be dispatch to the designated recipient's device/s. Upon receipt of a signal, the iWatch software module shall begin an automatic processing sequence of the graphic information to be dispatched. The information shall be automatically and electronically printed in a Portable Document Format (.pdf) and stored for retrieval by other authorized operators. iArchive software folders shall be automatically created to store the .pdf files by event and the date and time that they were received and processed. Each iArchive file shall be individually identified by the respective account number and shall contain the exact date and time to the second of the event. The .pdf file shall be available to be access through common windows programs for viewing and file maintenance requirements. It shall be possible for an authorized operator to view all devices by the simple click of the PC Mouse button contained on the iWatch software display screen. Special maintenance alerts, historical data or any text information shall be separately stored for each device, by authorized operator reference. The iWatch software module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and cannot be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iWatch module shall automatically restart and reload into the resident operating system without any operator intervention.

iDispatch

The iDispatch module shall control all outbound email and text messages to be dispatch to the designated recipient's device/s. The device/s shall include but not be limited to Laptop computers, Desktop computers, Servers, or any internet email addresses, cellular telephones, or Blackberry device, just to name a few. The iDispatch module shall continually monitor all outbound files and upon receipt, dispatch the designated information. The information shall be dispatched in the form of text message/s, .wav file/s, graphical image/s, internet links, hyperlinks, and/or any pre-generated .pdf

document/s. The iDispatch module shall dispatch all formats or any combination thereof in a single dispatch to unlimited recipients. Graphical images shall be dynamic in their operation allowing the recipient/s to zoom in or out of the image with no loss or degradation of the image/s. All signals shall be automatically dispatched, without any operator intervention in under, a total elapsed time of 75 seconds, from start to finish. The time shall be measured from when the actual field device (Smoke Detector, Pull Station, Water Flow, etc.) is activated to when a designated recipient receives the signal. All text message/s, .wav file/s, graphical image/s, internet links, hyperlinks, and/or any pre-generated .pdf document/s shall be device specific and will not be general in content. The specific location and all critical information shall be contained with each device dispatch. The graphic images shall be transmitted in .pdf format, shall be in color, reflecting the device in alarm in red, or device in trouble in yellow. All devices shall be reflected on the graphic image however only the abnormal device will be reflected in its designated color based on its condition. A quick locate feature (Bold Rectangle) shall be automatically generated and provided to draw additional attention to the abnormal device, even in a zoomed out condition. It shall be possible to zoom the image from 1% to 6,600% power or magnification. An iDispatch log file shall be automatically created each and every time a dispatch is made. The iDispatch log file shall be available to be access through common windows programs for viewing and file maintenance requirements. The iDispatch module shall be a continuously running program utilizing the windows platform and shall be minimized to avoid impeding the background of all currently displayed windows. It shall be password protected and cannot be closed or shutdown by unauthorized personnel. A backup version shall be fully integrated in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iDispatch module shall automatically restart and reload into the resident operating system without any operator intervention.

iConfigure

The iConfigure software module shall be the utility program used for the inputting the configuration of all critical information into the Ancillary Notification System. Access to the program shall be by use of authorized passwords. Authorized personnel must sign on using a hierarchy of authorized password levels that have been established by the Master Administrator. Once signed on, authorized personnel shall have the ability to define each and every aspect of the signal and device characteristics. The iConfigure software module shall have an auto learn feature which enables field devices to be automatically imported into the iConfigure Software, avoiding manual entry of the devices and the associated device descriptor information, not with-standing, in the absence thereof, providing authorized personnel the ability to manually enter the device and descriptor information. All Background images (Graphics) shall be programmed as sublevels of an image zone and an image group. All field devices shall be stored in a master database which shall be accessible easily from standard PC Mouse commands. Adding a device to an image shall consist of three simple mouse clicks to view the entire field device database followed by a simple drag and drop effort onto the respective image. When deleting a device, the deleted device shall be removed from the image but shall be retained in the field device database for future replacement. Editing a device shall allow authorized operators to change the specific device icon size or all of the device icon sizes contained on the image at one time without the necessity of leaving the edit command screen. After any individual or all of the field devices have been placed on an image, it shall be possible to test the dynamic operation of any field device by selecting the device test option. This option shall allow verification of each field device alarm, supervisory, trouble and restoral functions as if it were an authentic change of event being received by the operating system.

iReport

The iReport software module shall allow a full history recap via a windows based report query format structure that can be entered by device address, type, condition, account, or date criterion and/or any combination thereof. All report results shall be displayed in less than 2 seconds, as a standard text

file permitting easy printing in an open protocol, word merging, and/or text management arrangement. It shall also be possible to gather email and text message verification from the iArchive software module database for verification of email and text notification/s. A backup version of the iReport log files shall be fully integrated, in the event that a recovery operation from a catastrophic incident becomes necessary. In the event of a complete windows operating system reboot, the iReport software module shall automatically restart and reload into the resident operating system without any operator intervention.

iArchive

The iArchive module shall automatically and permanently record the results of all system transactions to the system archive files. The iArchive software module shall reside as a separate and distinct database from the history report file and, to insure survivability, shall not be stored on the same computing device nor at the same computing location as the main operating system. It shall be possible to easily review the results of any and all transactions of the system at any time without the possible loss or interruption of the main operating system. the iArchive software module shall automatically restart and reload into the resident operating system without any operator intervention.

Scalability

The proposed life safety event management system shall be designed using open protocol and standard off the shelf technology with the capacity to surpass all current and projected future requirements by at least 500%. The system shall provide software application modules that use open protocol and off the shelf proven technology and shall be specifically designed for multi-building and municipal facility life safety environments to ensure a minimum 15 year system life of high-performance and reliable service. The system shall provide all required functionality with new or existing alarm monitoring and receiving equipment to monitor, receive, interpret, annunciate, respond, track, dispatch, electronically notify, and manage all life safety events.

Building for the future

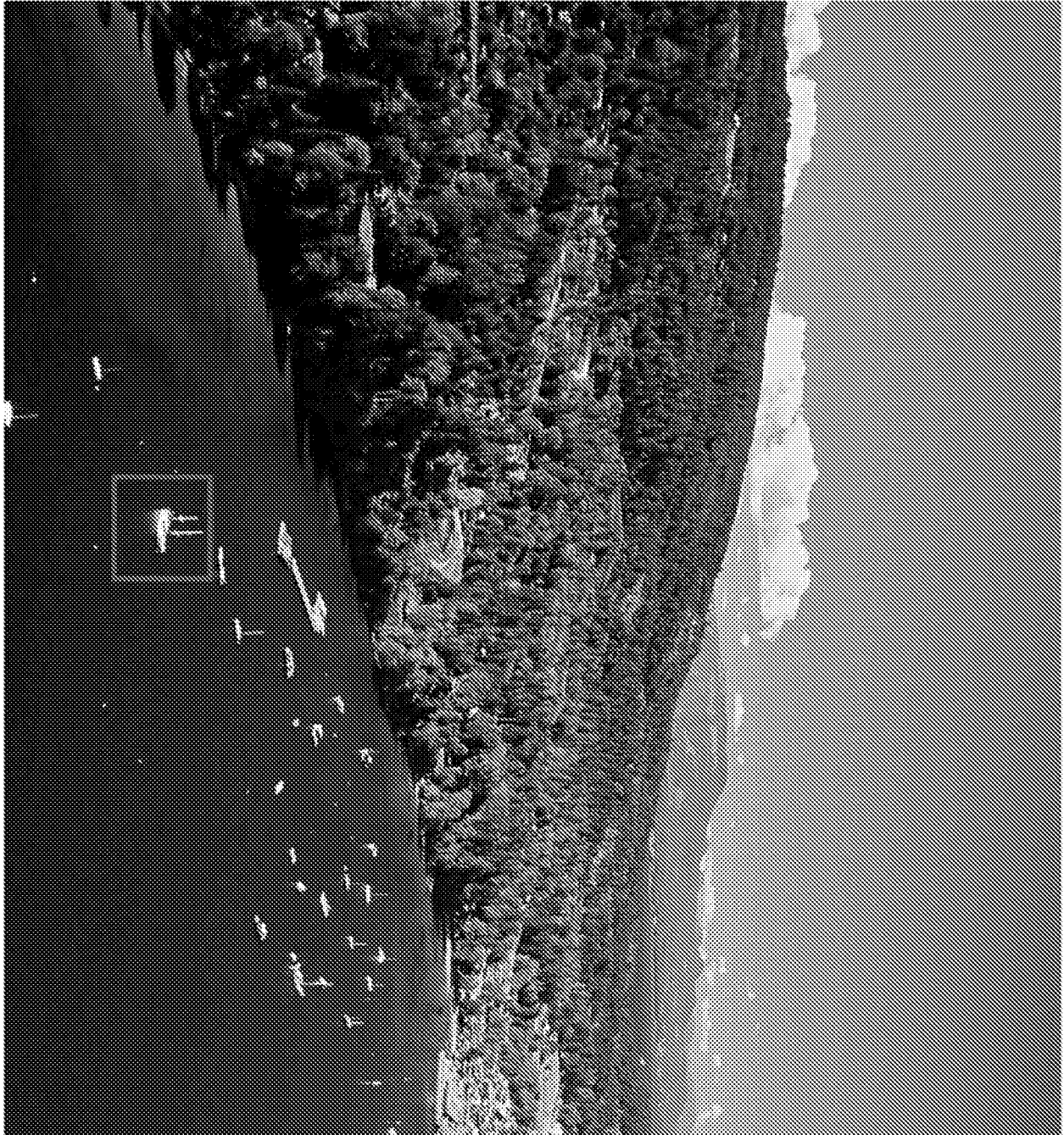
The software shall be an extensible application using the Microsoft Windows operating system platform. The software shall be provided on a standard platform enabling the system to be integrated with other facility, municipal and campus management systems such as mass notification, paging, CAD, CCTV and video display and IP accessible systems.

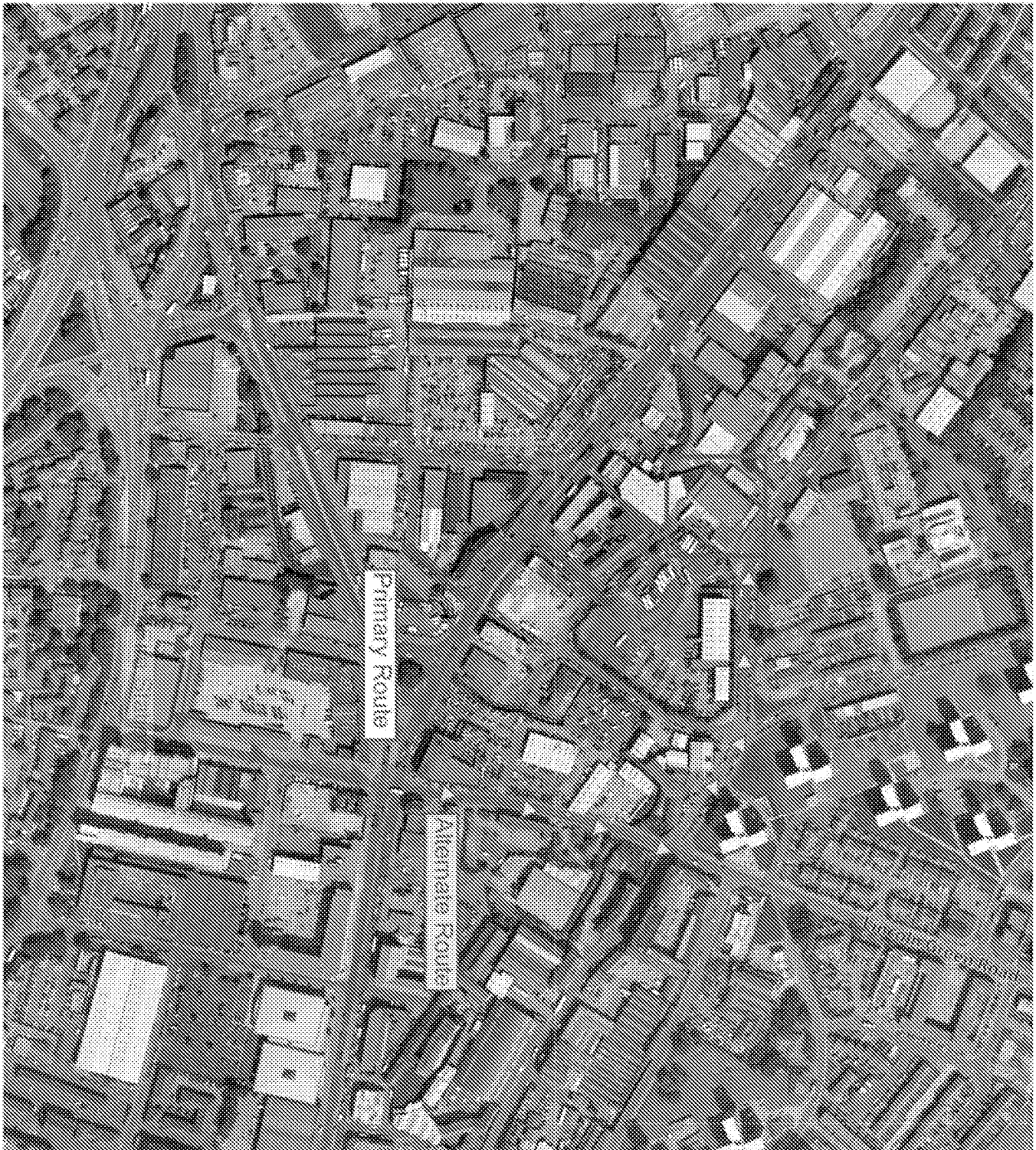
Support Documentation

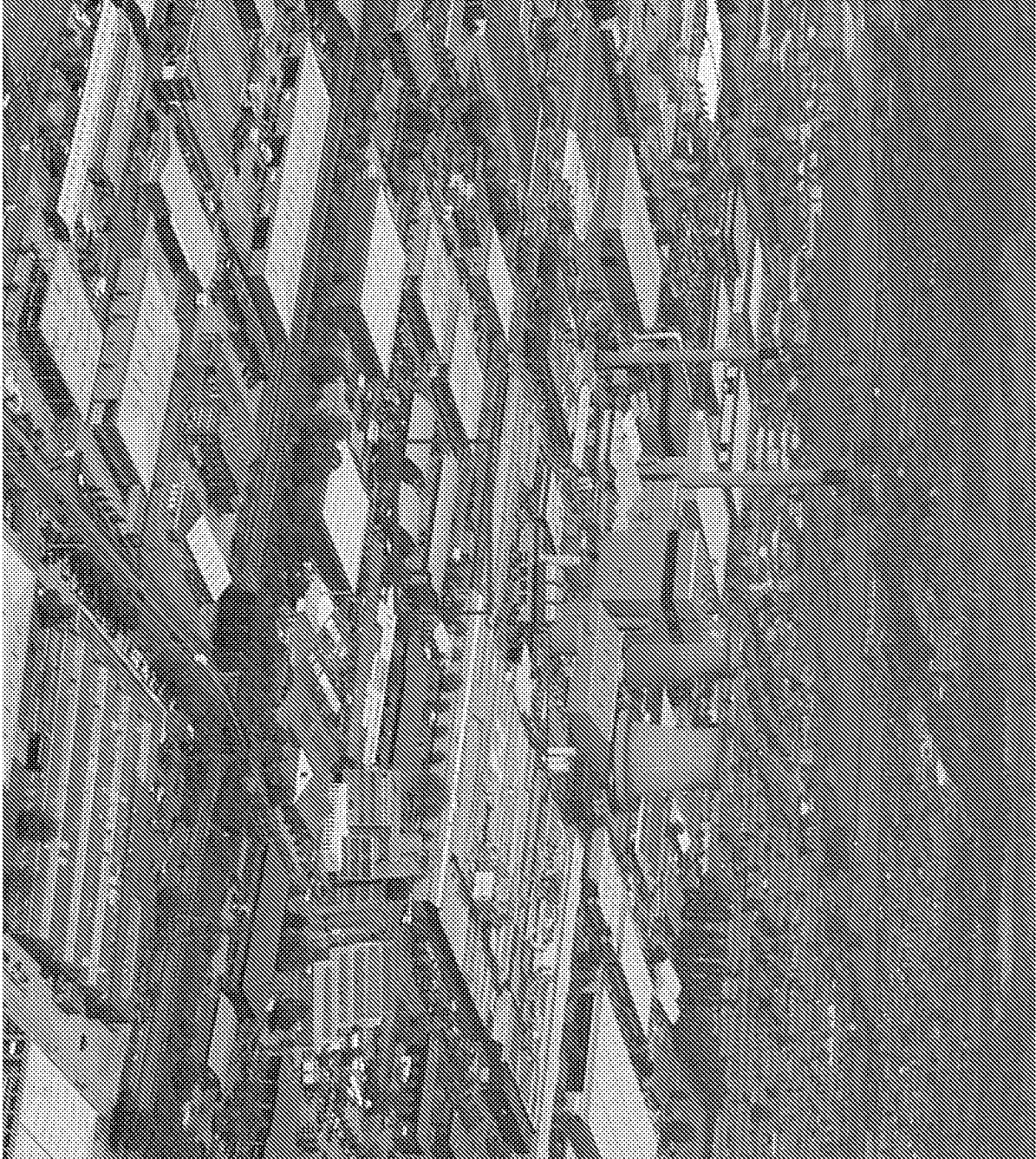
Provide the following support documentation:

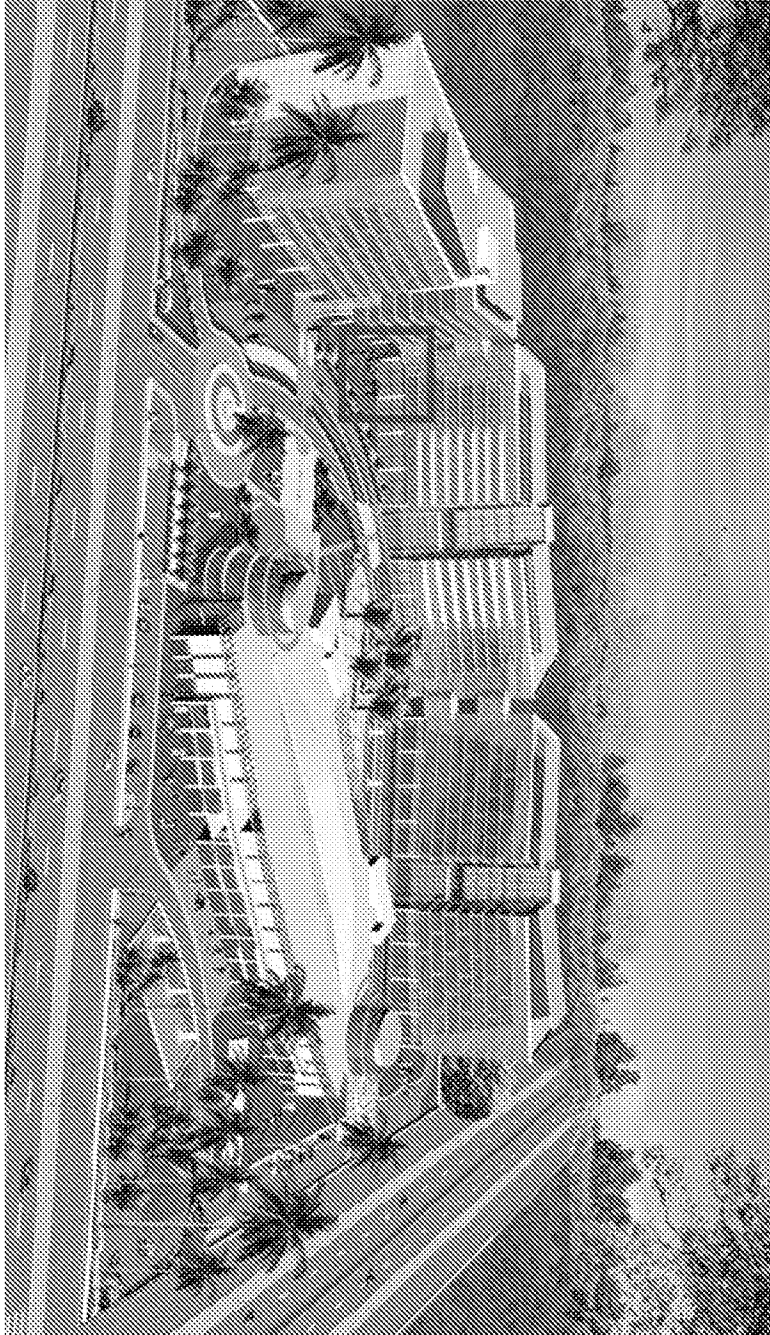
- A network setup guide that establishes the requirements and procedures for site administrators to use when incorporating the system into a network.
- A server installation guide that shows the installation and configuration of the Server.
- History editor and user guide.
- Operators manual including Graphic Compositions.
- A database programming and maintenance manual.
- A quick dispatcher's guide to show basic operator interaction with the system providing the ability to acknowledge events and dispatch personnel.
- A full dispatchers' training course presented in Microsoft PowerPoint format.
- Online, fully indexed and searchable user documentation.

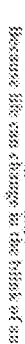
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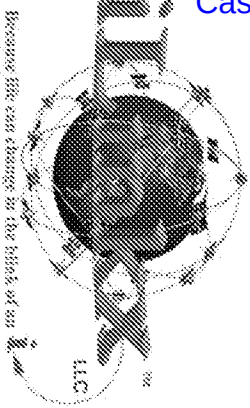


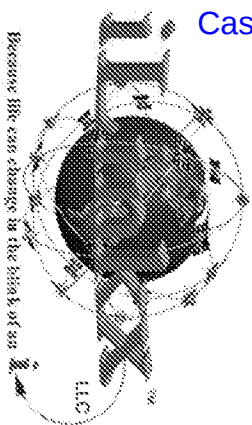






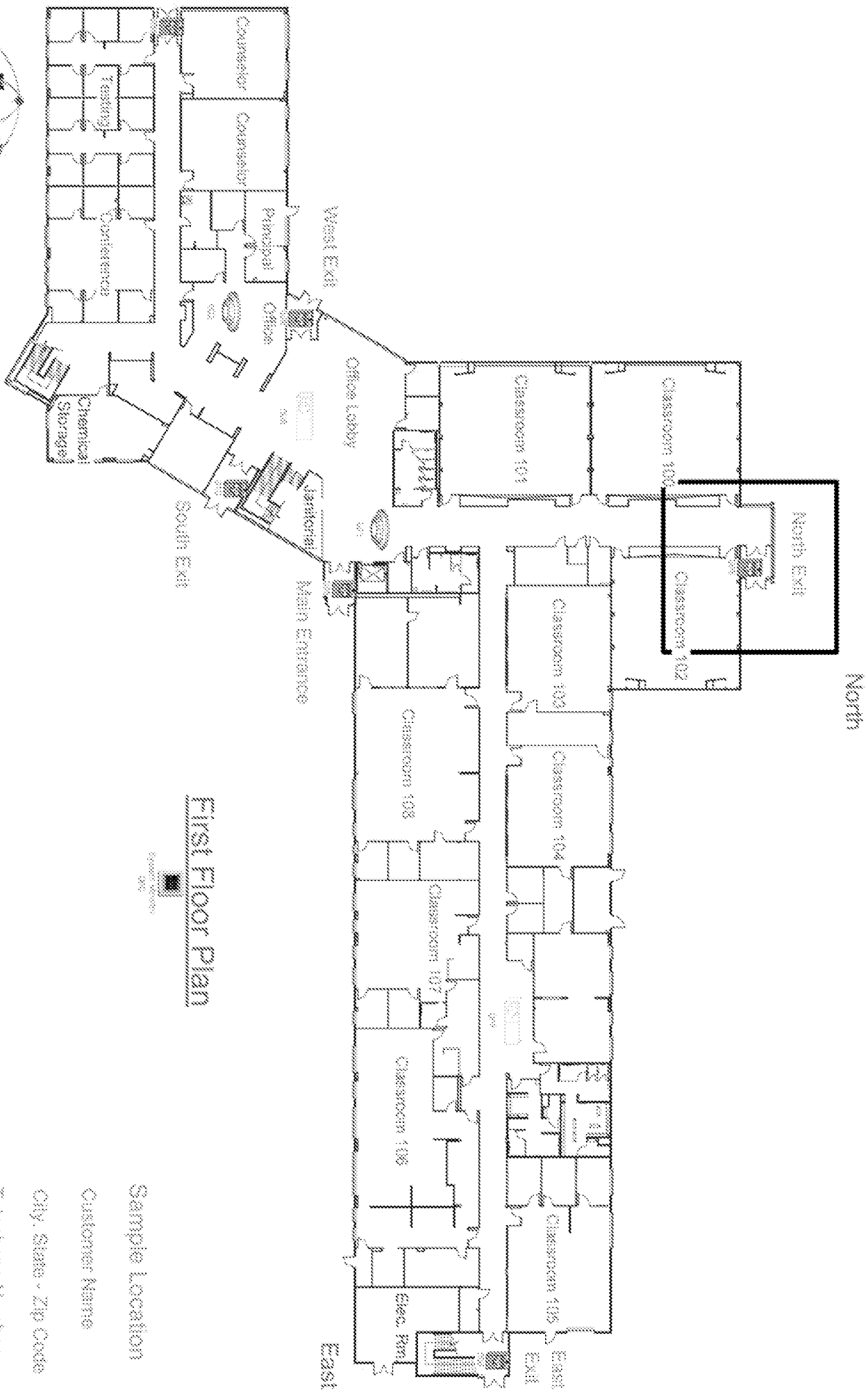
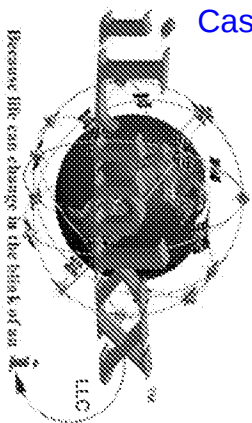
Received by the Editor in the form of 88





Test for Plan

Sample Location	Customer Name	City, State - Zip Code	Telephone Number
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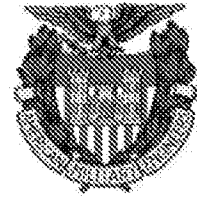
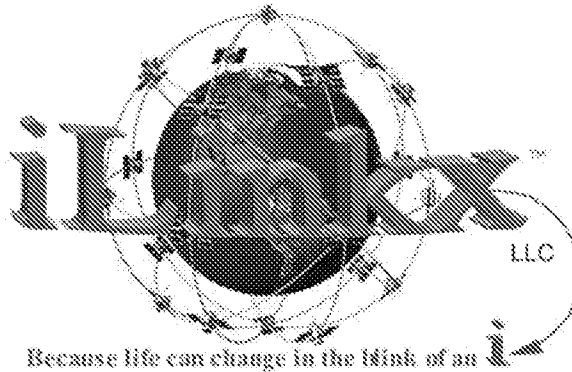


Sample Location


Customer Name

City, State - Zip Code


Telephone Number

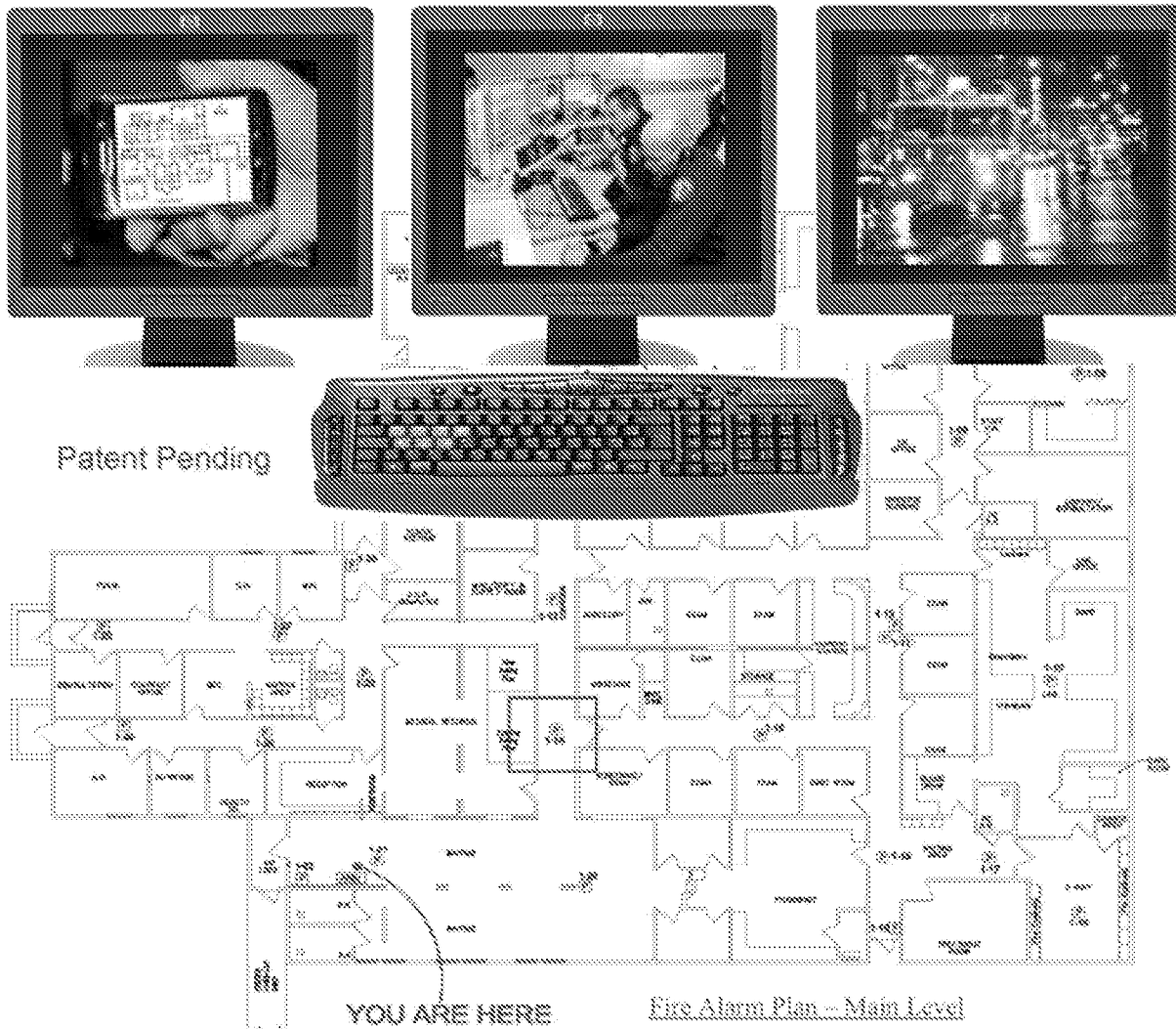


Sustaining Member

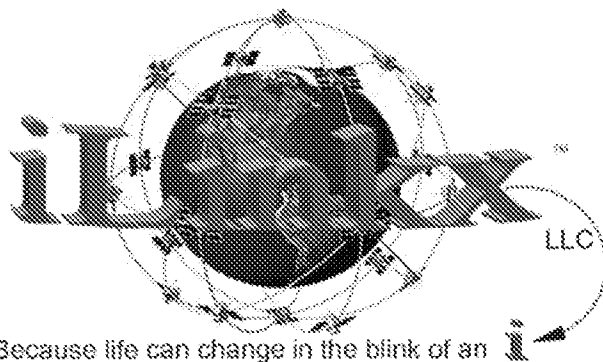
Because life can change in the blink of an ***iLinkx is your connection to critical information***

Use your existing network connection and unleash the power to display critical information as it occurs, in real time with just a few simple clicks. *iLinkx* is ideal for Authorities, Management, and other First Responders. It's a useful tool for conducting maintenance or code compliance testing.

Today's technology offers mobility and *iLinkx* has made that mobility affordable. So the next time you receive a critical signal, simply make a few simple clicks and display it, because life can change in the blink of an 

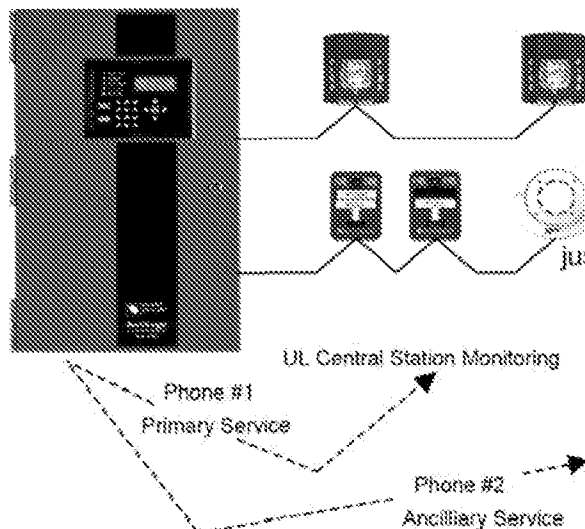


- * Fire & Security Alarms
- * Carbon Monoxide
- * Hazardous Materials
- * As-Built Drawings
- * Emergency Exits
- * Extinguishers
- * Hydrant & Stand Pipes
- * Utility Disconnects



Because life can change in the blink of an i

- * UL Central Station Service
- * Contact ID Format
- * Cell Phone Text Message
- * Browser Compatible
- * Auto Email Notification
- * Graphic Display iLinkx
- * CCTV Video iLinkx
- * Historical Data Reports



iLinkx - Your connection to critical information

Use your existing network connection and unleash the power to display critical information as it occurs, in real time with just a few simple clicks. iLinkx, is ideal for Authorities, Management and other First Responders. It's a useful tool for conducting maintenance and code compliance testing. Today's technology offers mobility and iLinkx has made that mobility an affordable reality. So the next time you receive that critical signal, just make a few simple clicks Because life can change in the blink of an i



First Responders:

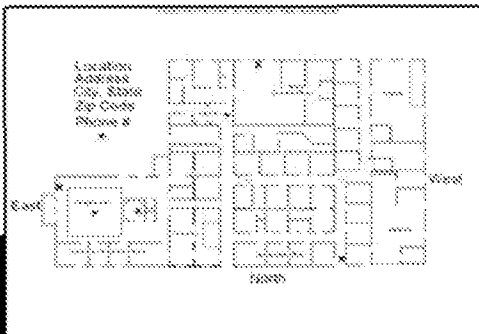
- * Building Floor Plans
- * Hazardous Material Locations
- * Hydrant & Stand Pipe Locations
- * Utility Disconnects

Management:

- * Emergency Disaster Plan
- * Building Floor Plans
- * Extinguisher Locations
- * Emergency Exits
- * As-Built Drawings

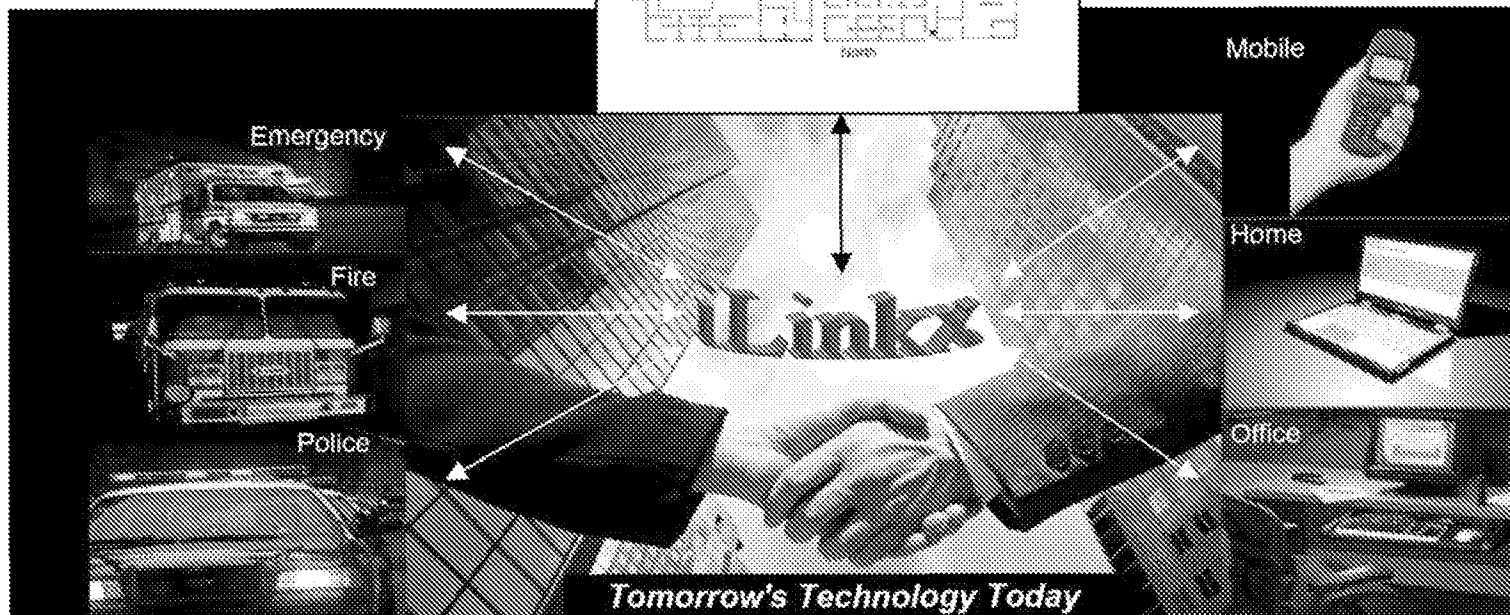
Contact ID Reporting Format

iLinkx, accepts signals from existing systems without the need of additional equipment. Information is processed in an ancillary form and is automatically distributed to approved users via iLinkx based text messages & emails. Display, print and share that critical signal information with just a few simple clicks. Because life can change in the blink of an i



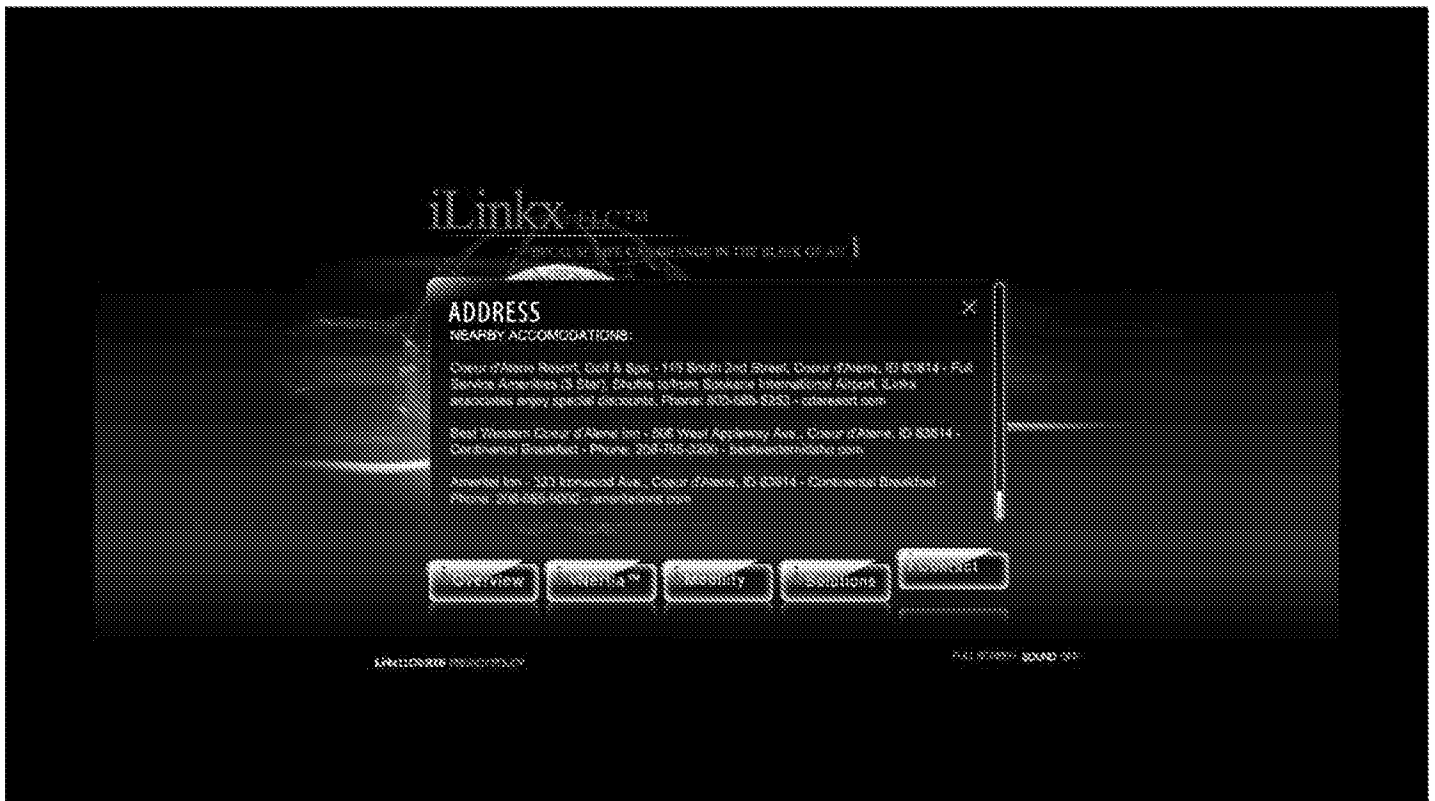
Occupants:

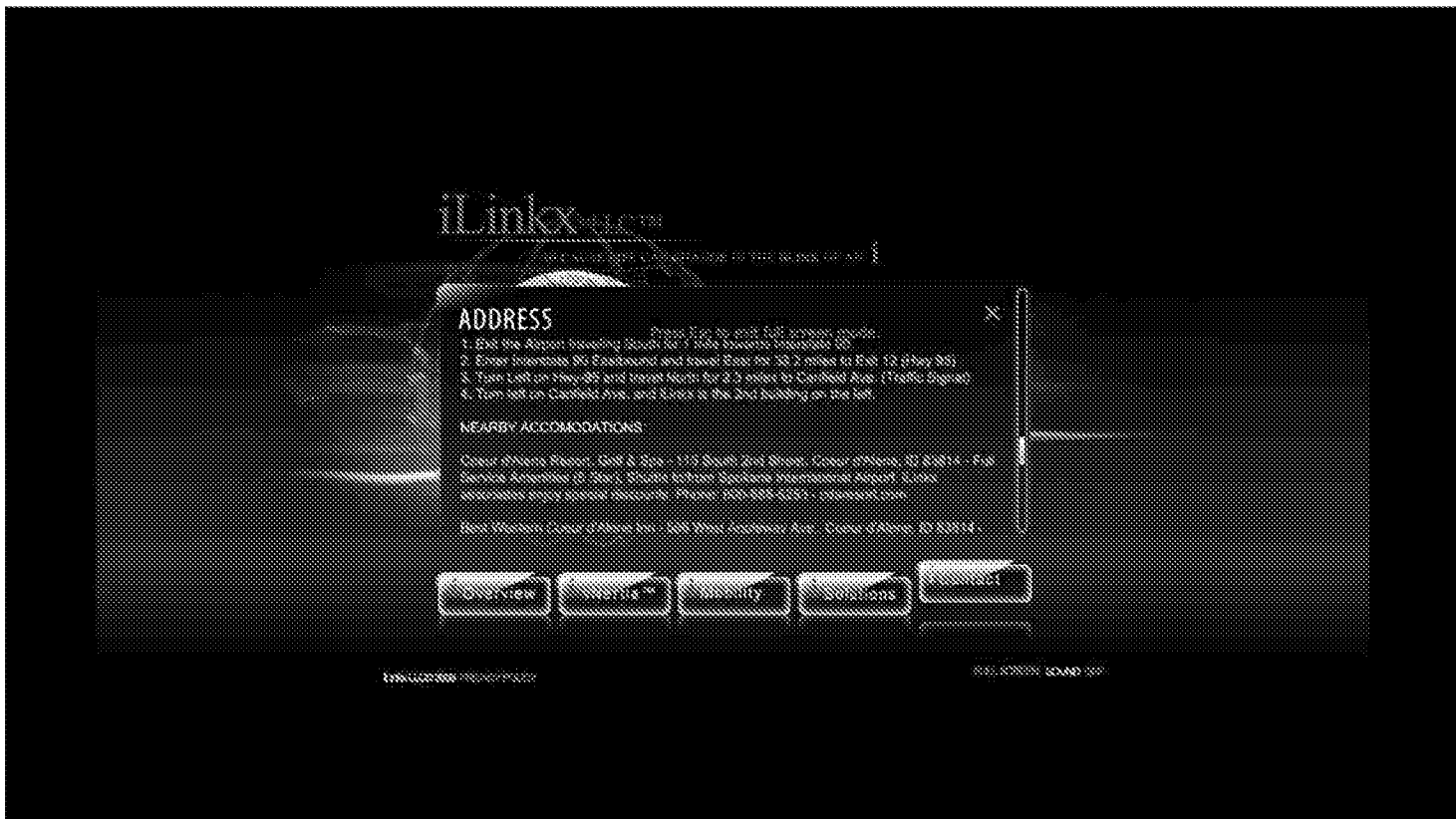
- * Evacuation Procedures
- * Emergency Exits & Stair Wells
- * Designated Handicap Safe Areas

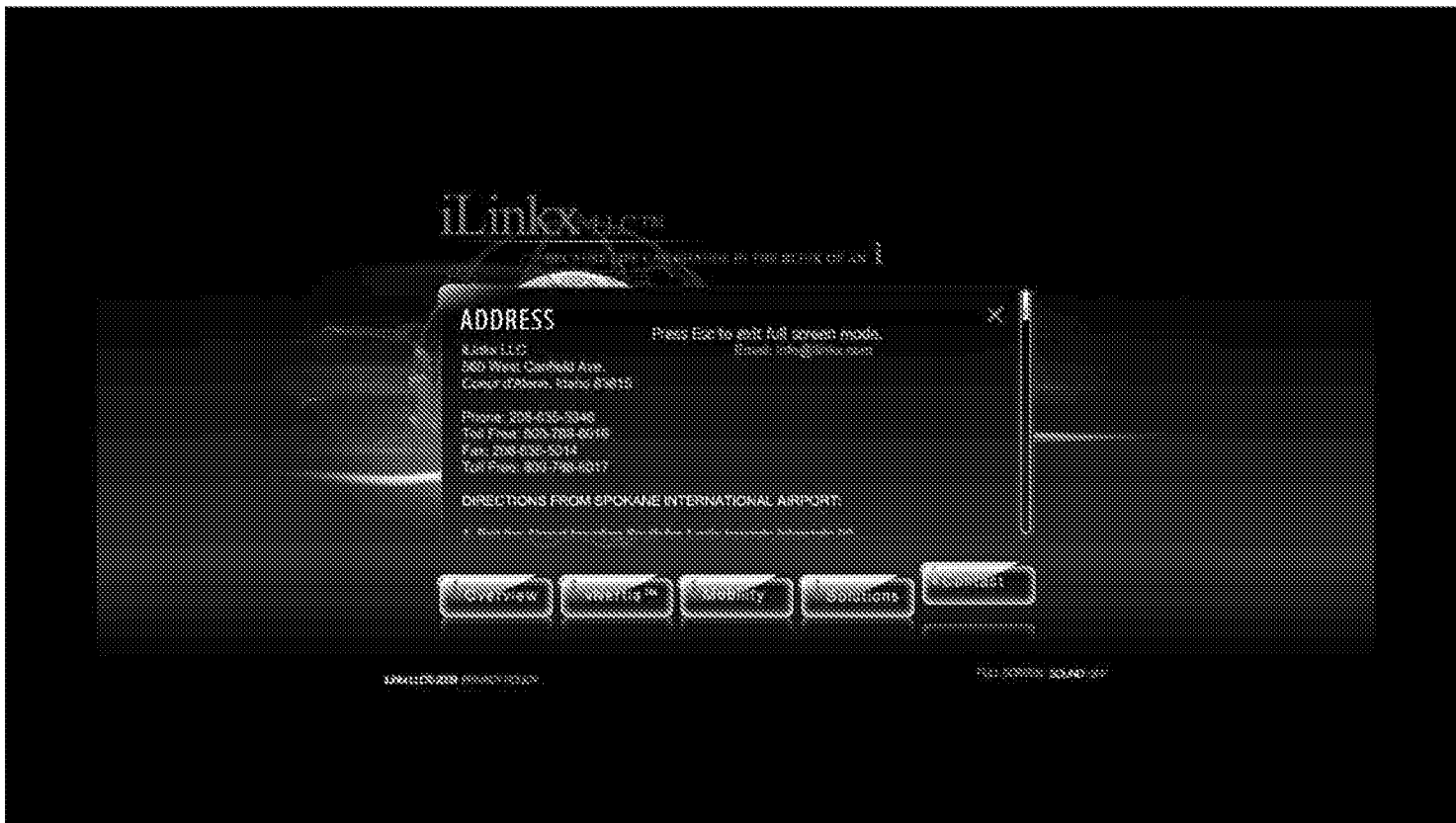


Tomorrow's Technology Today

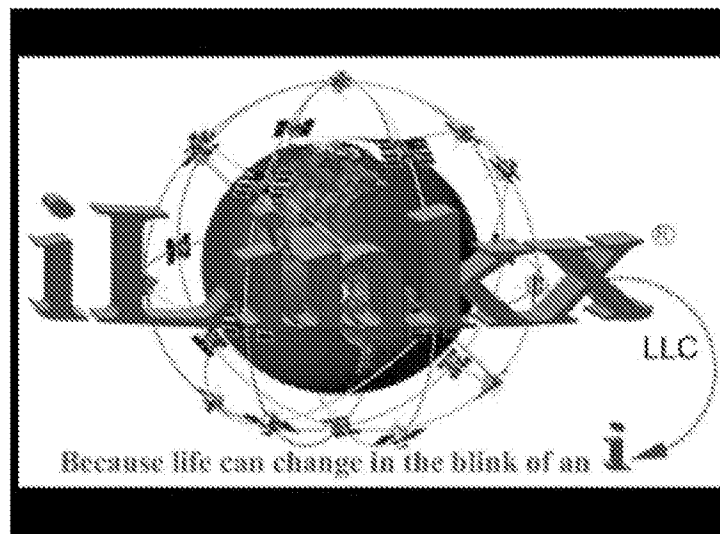
Patent Pending

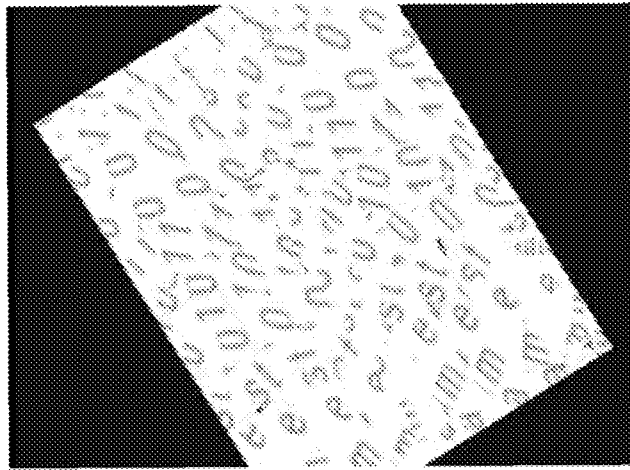


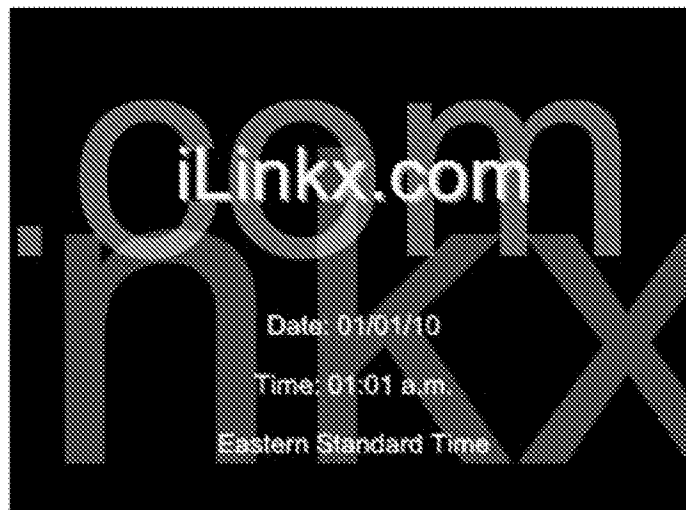


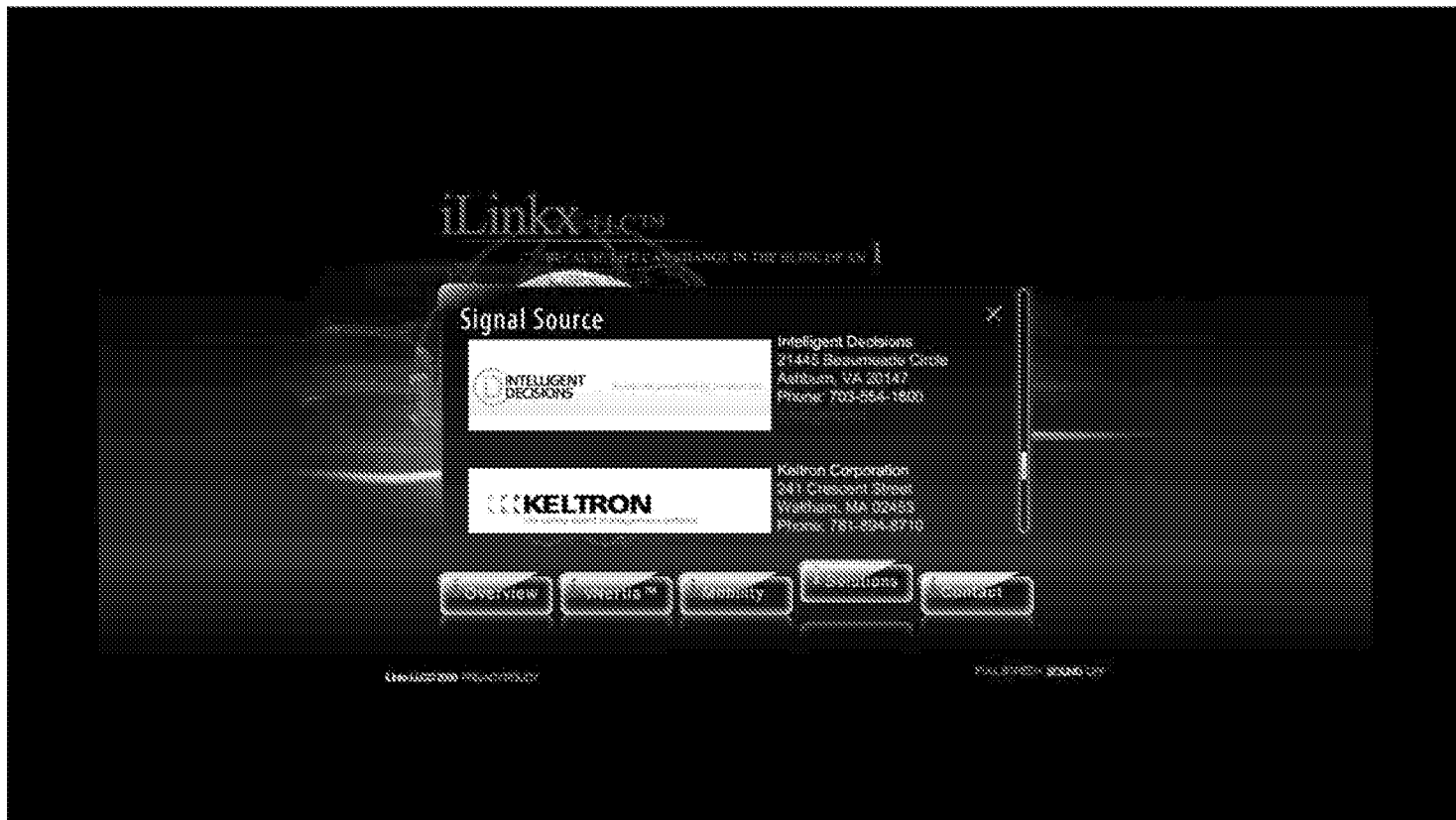






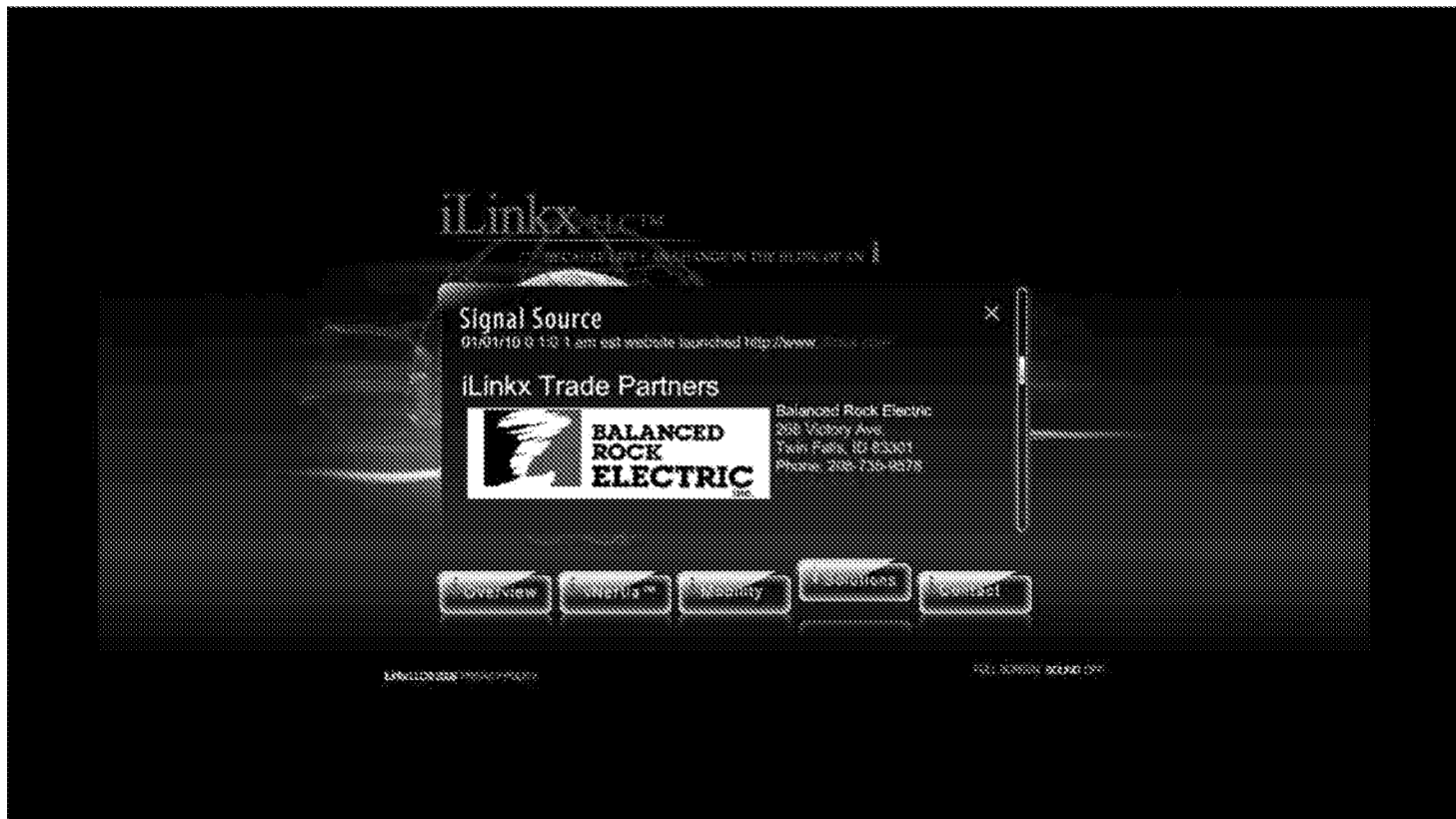


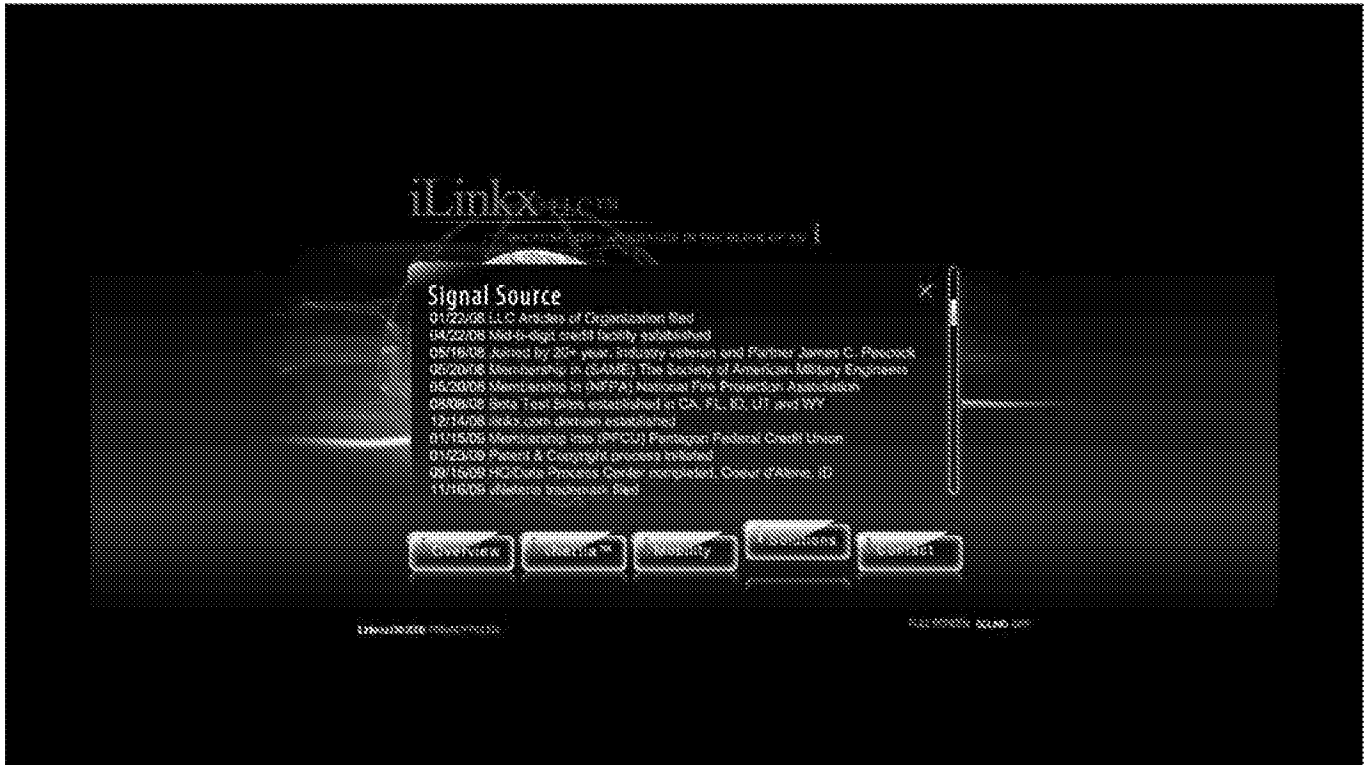


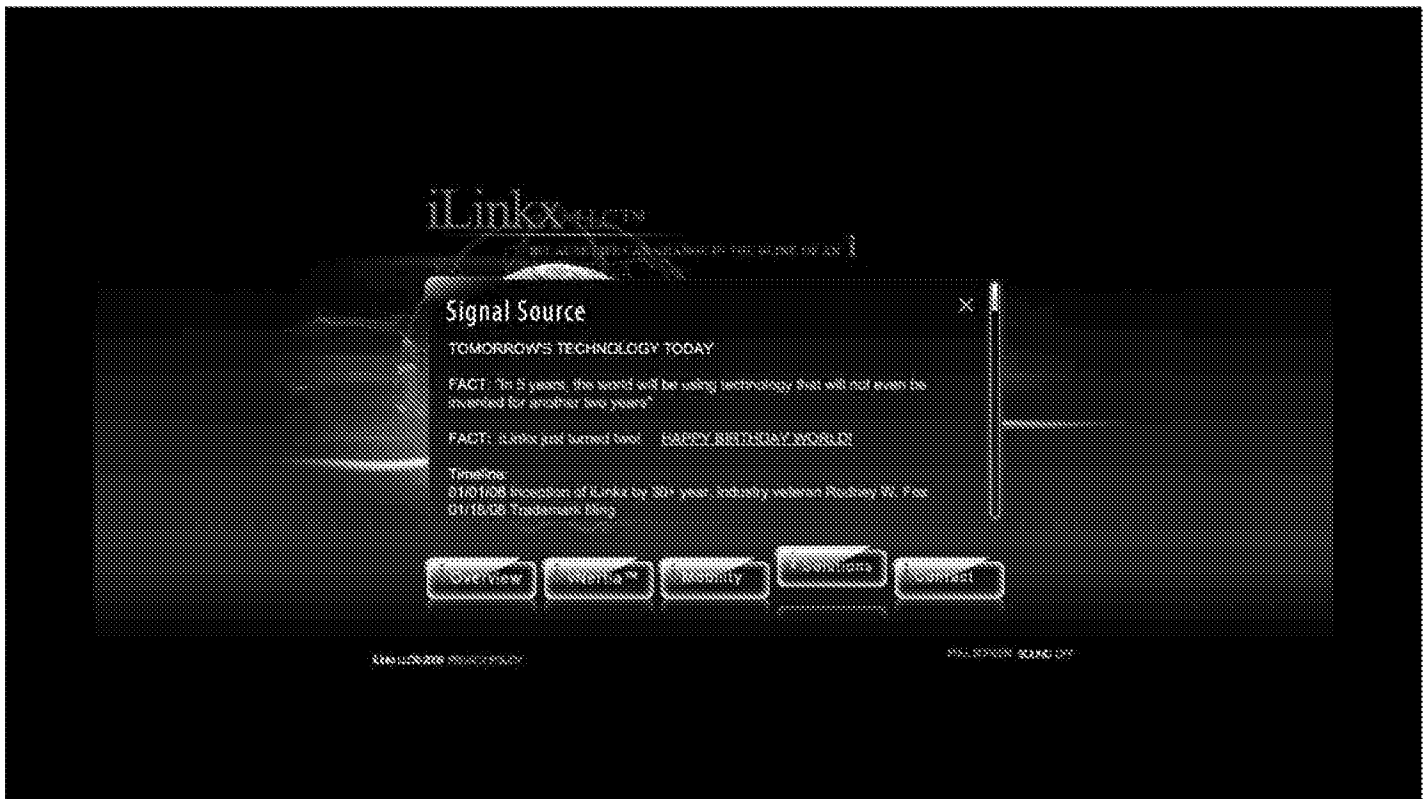


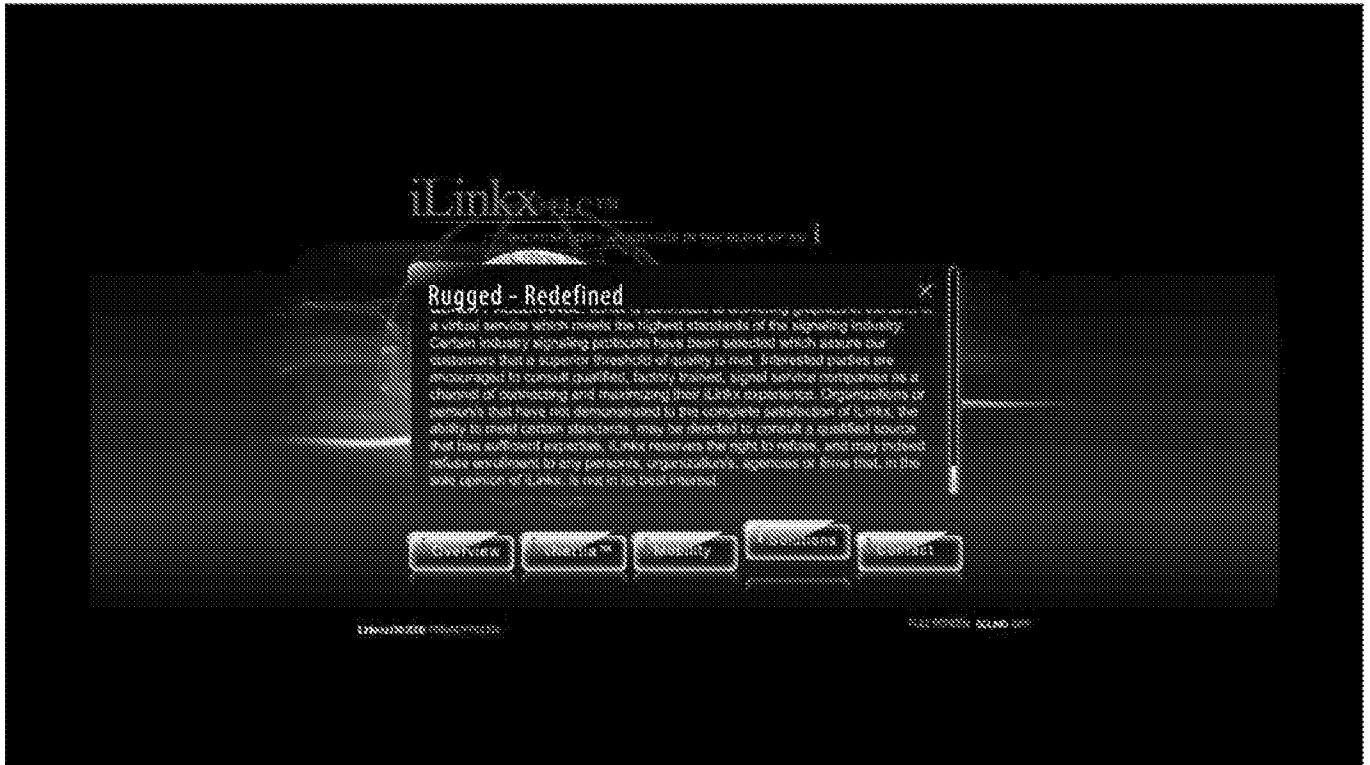


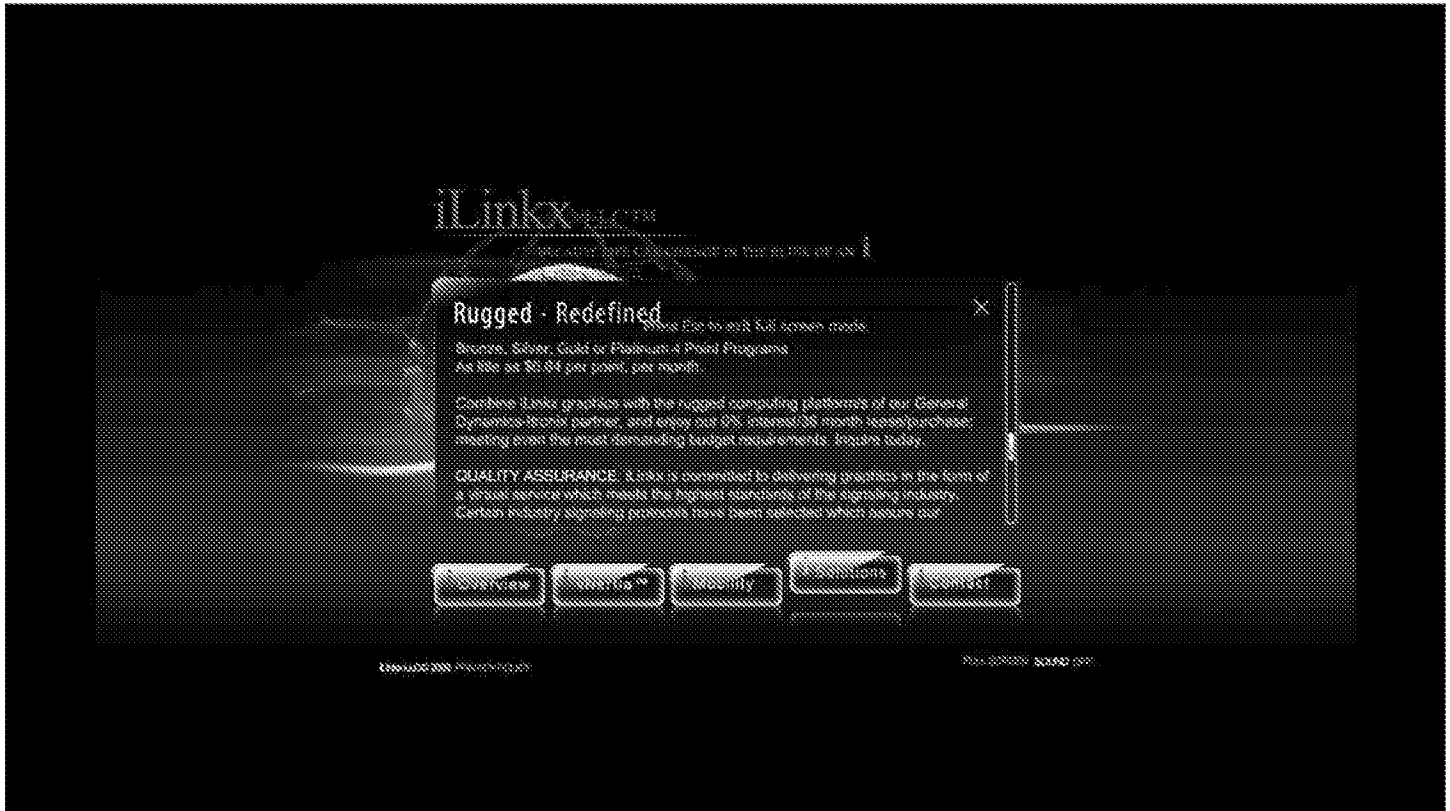


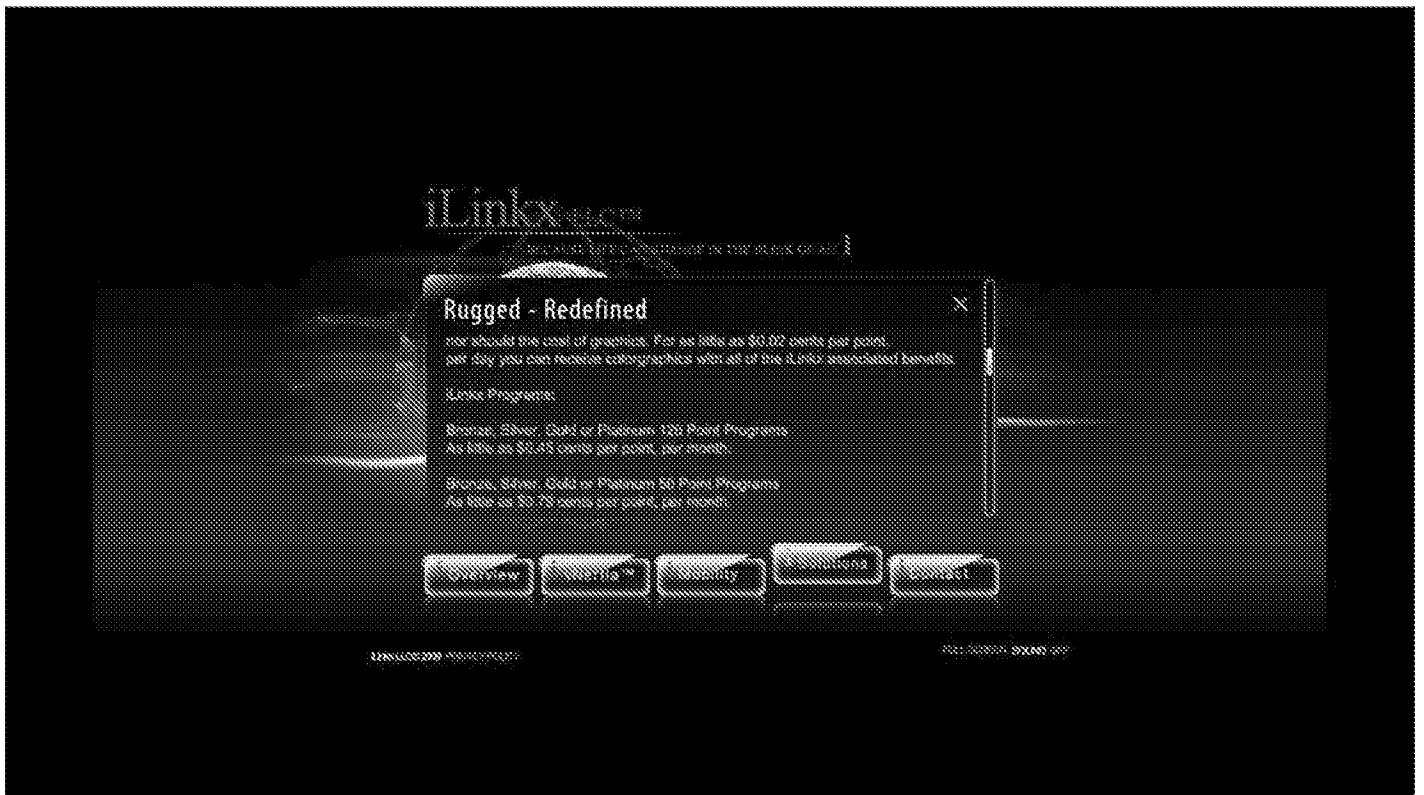








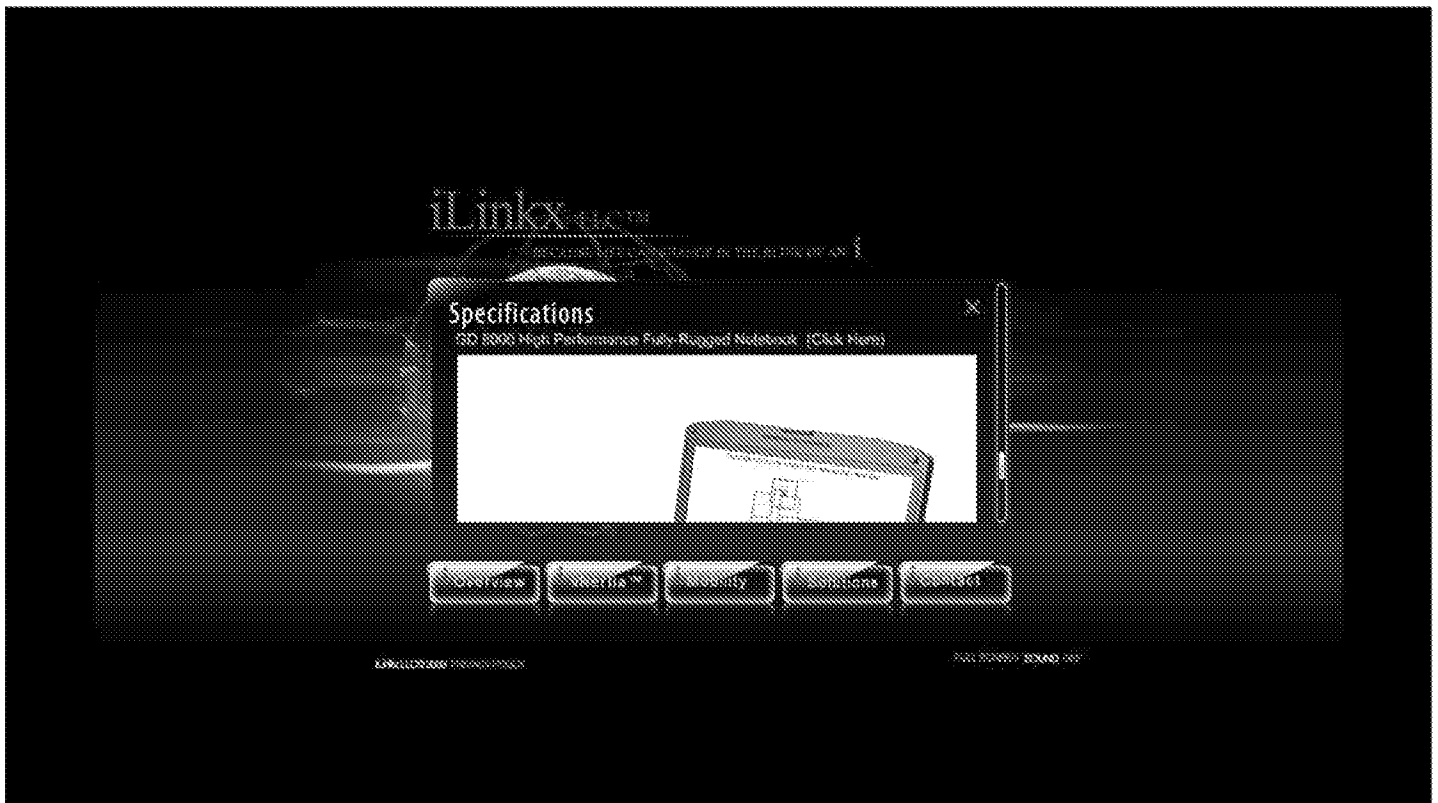






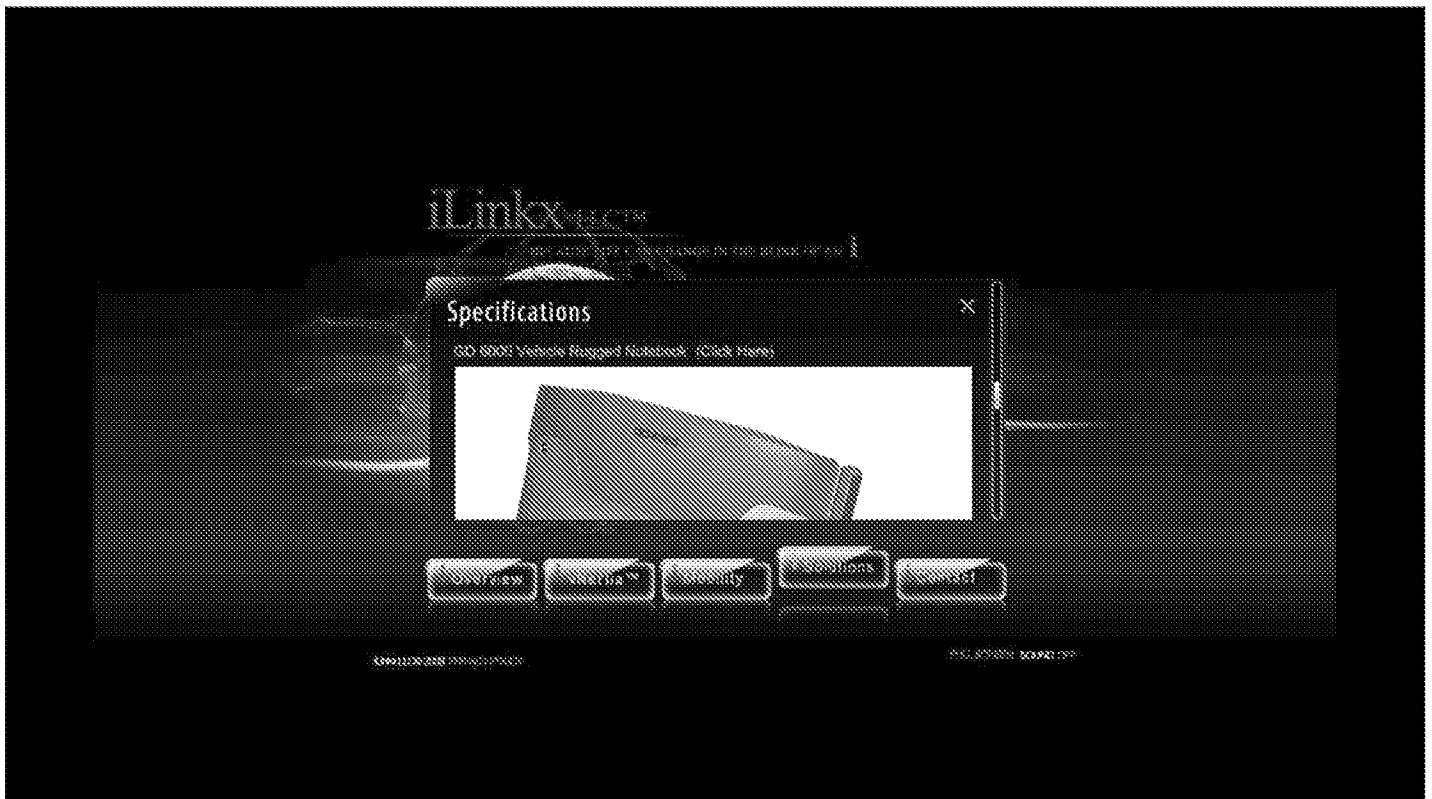










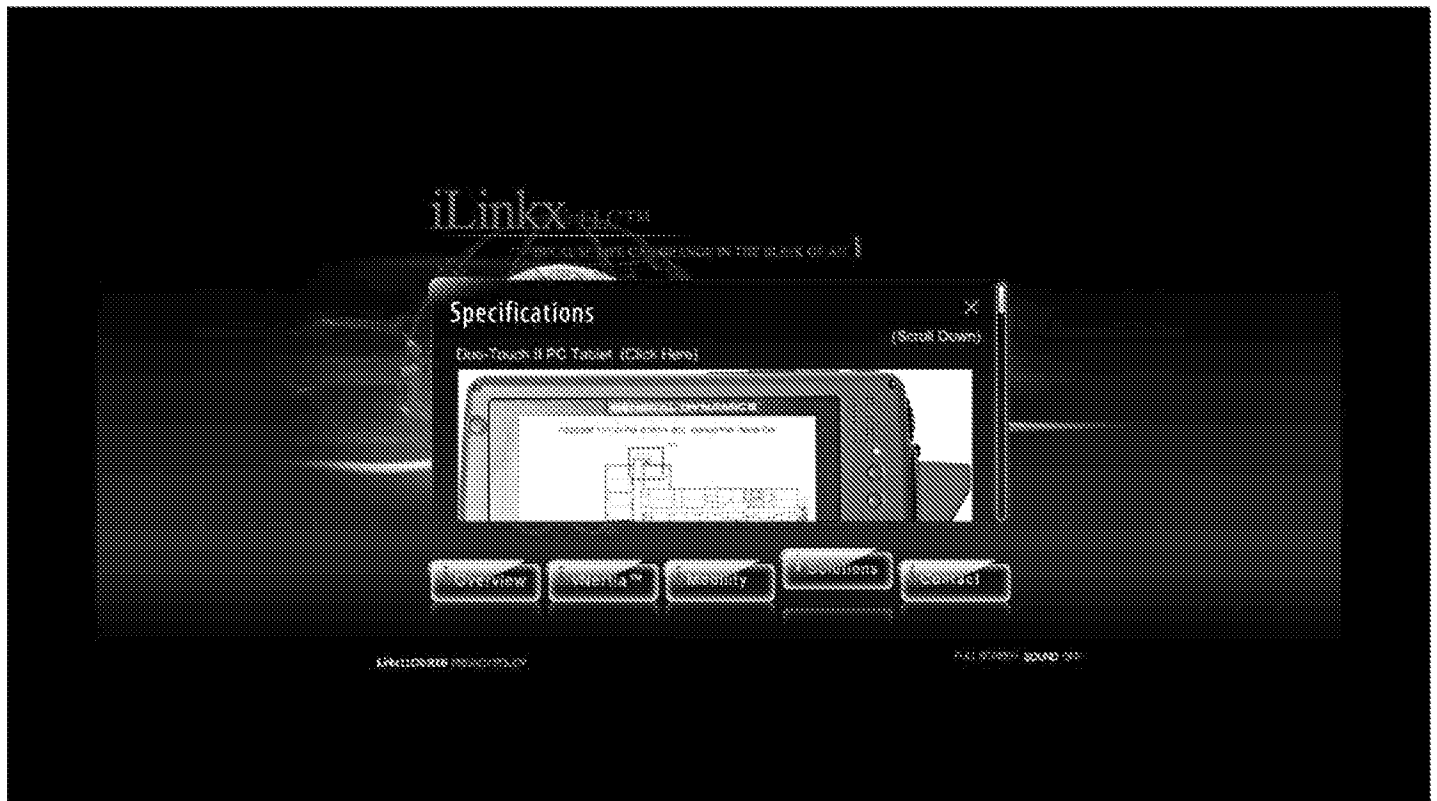


















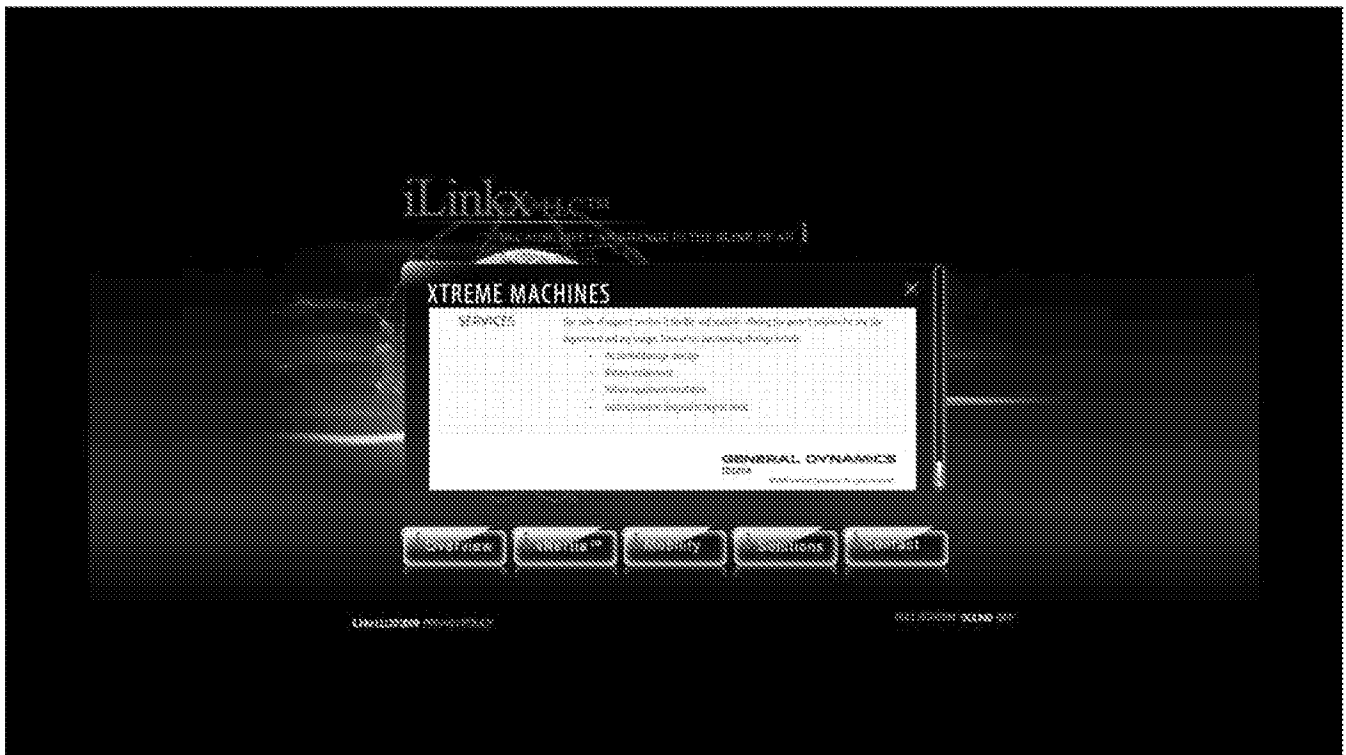


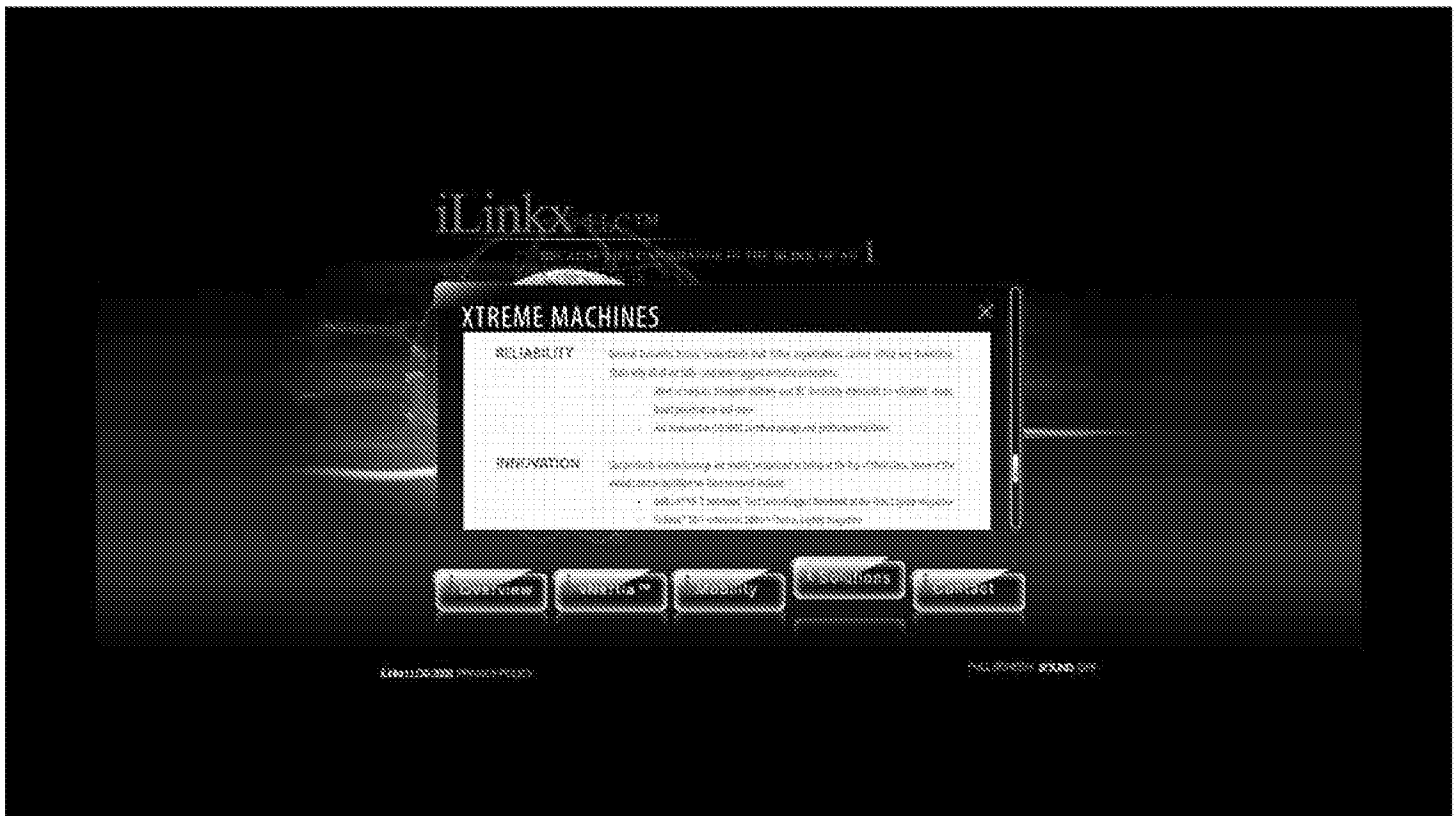
Product Line Up				
	1200000	1200000	1200000	1200000
				
Processor	Intel Core i7-7700HQ (2.8GHz, 8MB Cache, 45W)	Intel Core i7-7700HQ (2.8GHz, 8MB Cache, 45W)	Intel Core i7-7700HQ (2.8GHz, 8MB Cache, 45W)	Intel Core i7-7700HQ (2.8GHz, 8MB Cache, 45W)
Memory	16GB DDR4 (8GB x2)	16GB DDR4 (8GB x2)	16GB DDR4 (8GB x2)	16GB DDR4 (8GB x2)
Storage	512GB SSD	512GB SSD	512GB SSD	512GB SSD
Display	15.6" FHD (1920x1080) IPS	15.6" FHD (1920x1080) IPS	15.6" FHD (1920x1080) IPS	15.6" FHD (1920x1080) IPS
Graphics	Intel HD Graphics 630	Intel HD Graphics 630	Intel HD Graphics 630	Intel HD Graphics 630
Operating System	Windows 10 Pro	Windows 10 Pro	Windows 10 Pro	Windows 10 Pro
Weight	4.8 lbs	4.8 lbs	4.8 lbs	4.8 lbs
Dimensions	14.1" x 9.8" x 0.8"	14.1" x 9.8" x 0.8"	14.1" x 9.8" x 0.8"	14.1" x 9.8" x 0.8"
Ports	2x USB 3.1, 1x USB-C, 1x HDMI, 1x Audio Jack	2x USB 3.1, 1x USB-C, 1x HDMI, 1x Audio Jack	2x USB 3.1, 1x USB-C, 1x HDMI, 1x Audio Jack	2x USB 3.1, 1x USB-C, 1x HDMI, 1x Audio Jack
Keyboard	Backlit Keyboard	Backlit Keyboard	Backlit Keyboard	Backlit Keyboard
Price	\$1,299.99	\$1,299.99	\$1,299.99	\$1,299.99
Warranty	3 Years	3 Years	3 Years	3 Years
Notes	See specifications for details.	See specifications for details.	See specifications for details.	See specifications for details.

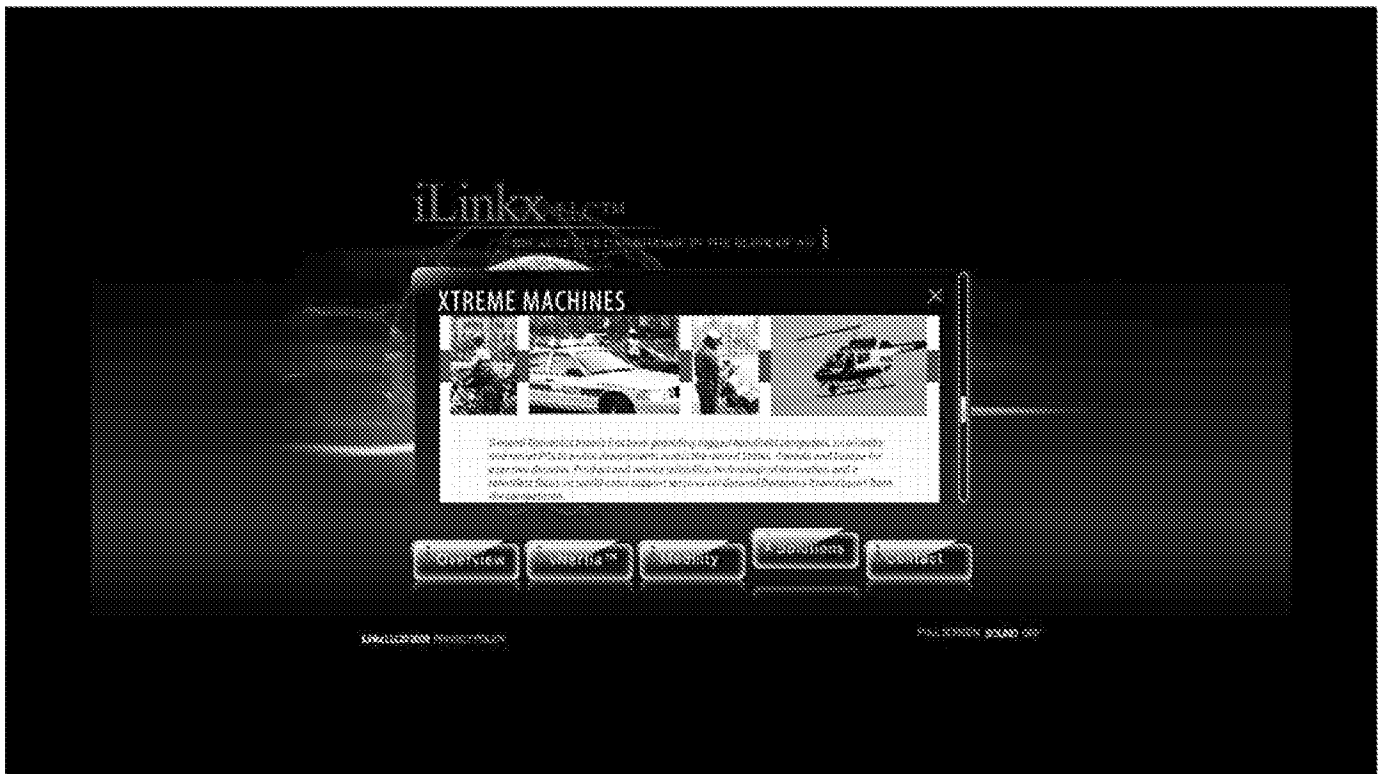
Product Positioning

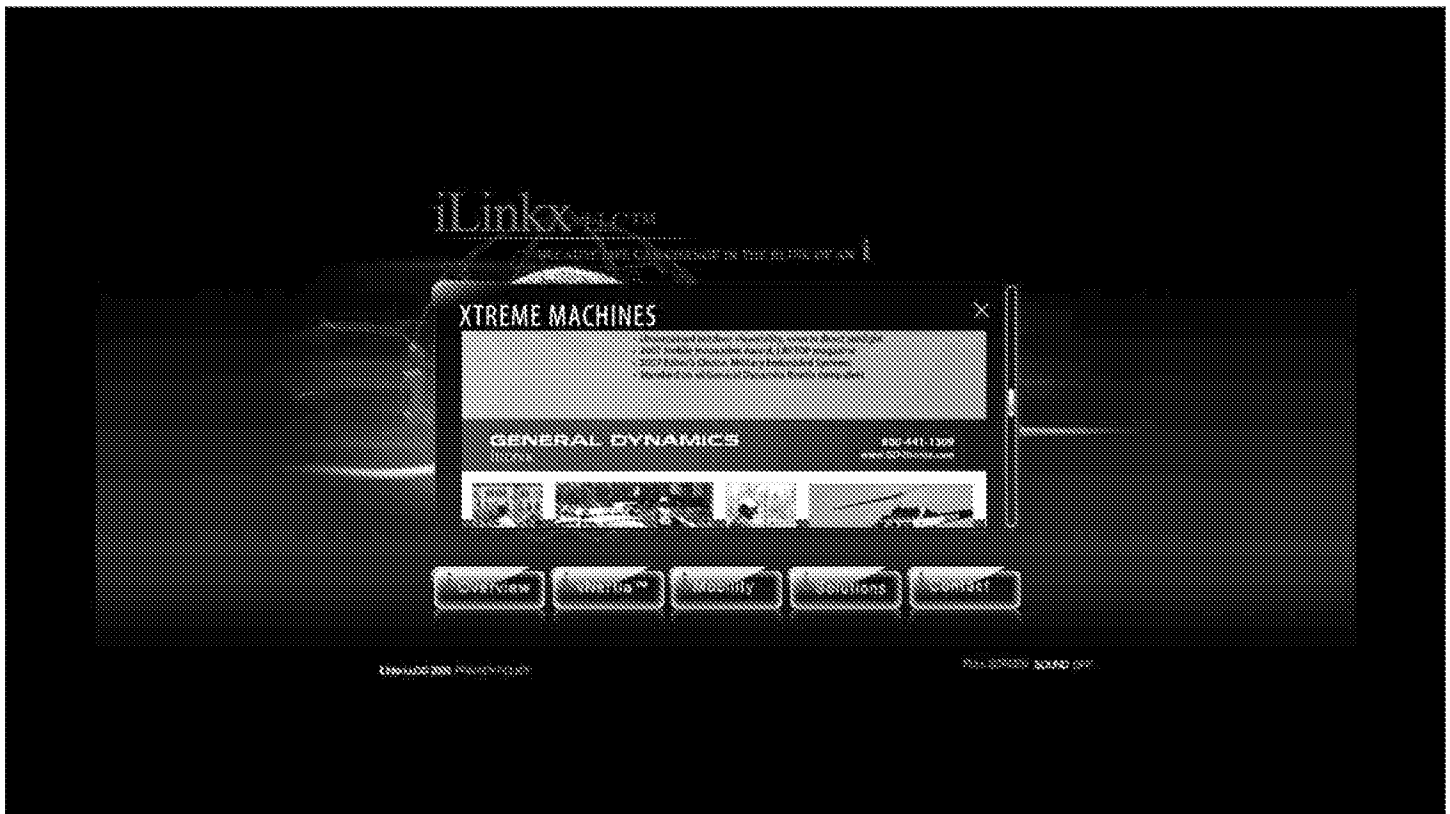
	4500000 New rugged 15" laptop 15" (381mm) x 10" (254mm) x 1.5" (38mm) 15" (381mm) x 10" (254mm) x 1.5" (38mm) 15" (381mm) x 10" (254mm) x 1.5" (38mm)	4500001 New rugged 15" laptop 15" (381mm) x 10" (254mm) x 1.5" (38mm) 15" (381mm) x 10" (254mm) x 1.5" (38mm) 15" (381mm) x 10" (254mm) x 1.5" (38mm)	4500002 New rugged 15" laptop 15" (381mm) x 10" (254mm) x 1.5" (38mm) 15" (381mm) x 10" (254mm) x 1.5" (38mm) 15" (381mm) x 10" (254mm) x 1.5" (38mm)	4500003 New rugged 15" laptop 15" (381mm) x 10" (254mm) x 1.5" (38mm) 15" (381mm) x 10" (254mm) x 1.5" (38mm) 15" (381mm) x 10" (254mm) x 1.5" (38mm)
Tagline	When Tough Get Tough	The Day-Shift Rugged Notebook	Fully rugged ultra-portable PC	The Toughest Lightest Rugged Tablet PC
Application Focus	Public Safety, Industrial Automation	Public Safety, Industrial Automation	Public Safety, Industrial Automation	Public Safety, Industrial Automation
Product Highlights	<ul style="list-style-type: none"> • Fully Rugged, 15" • Harshness: MIL-STD-883C • MIL-STD-883C, IP67, Shockproof • Various Mounting Options 	<ul style="list-style-type: none"> • Industrial Automation, 15" • MIL-STD-883C, IP67, Shockproof • Various Mounting Options 	<ul style="list-style-type: none"> • Fully Rugged 15" x 10", IP67 • Shockproof, 15" x 10" • MIL-STD-883C, IP67, Shockproof 	<ul style="list-style-type: none"> • Fully Rugged, 15" • MIL-STD-883C, IP67, Shockproof • Various Mounting Options
Competitive Advantages	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" 	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" 	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" 	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5"
Market Segments / Applications	<ul style="list-style-type: none"> • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control 	<ul style="list-style-type: none"> • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control 	<ul style="list-style-type: none"> • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control 	<ul style="list-style-type: none"> • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control • Public Safety - Law Enforcement, EMS, Fire • Industrial Automation - Manufacturing, Process Control
Key Features	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" 	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" 	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" 	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5"
Key Benefits	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" 	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" 	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" 	<ul style="list-style-type: none"> • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5" • Rugged 15" x 10" x 1.5"

GENERAL DYNAMICS
11111111



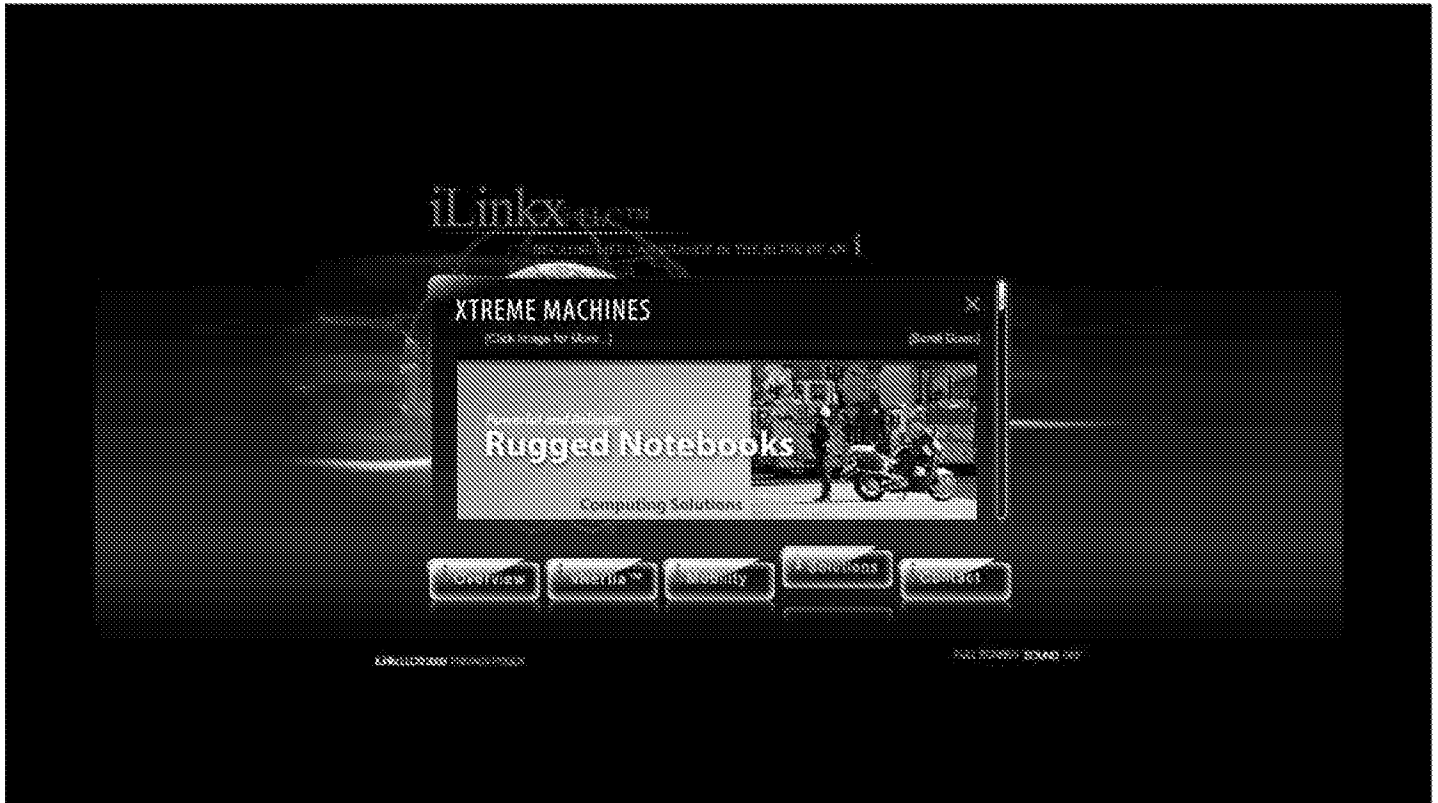


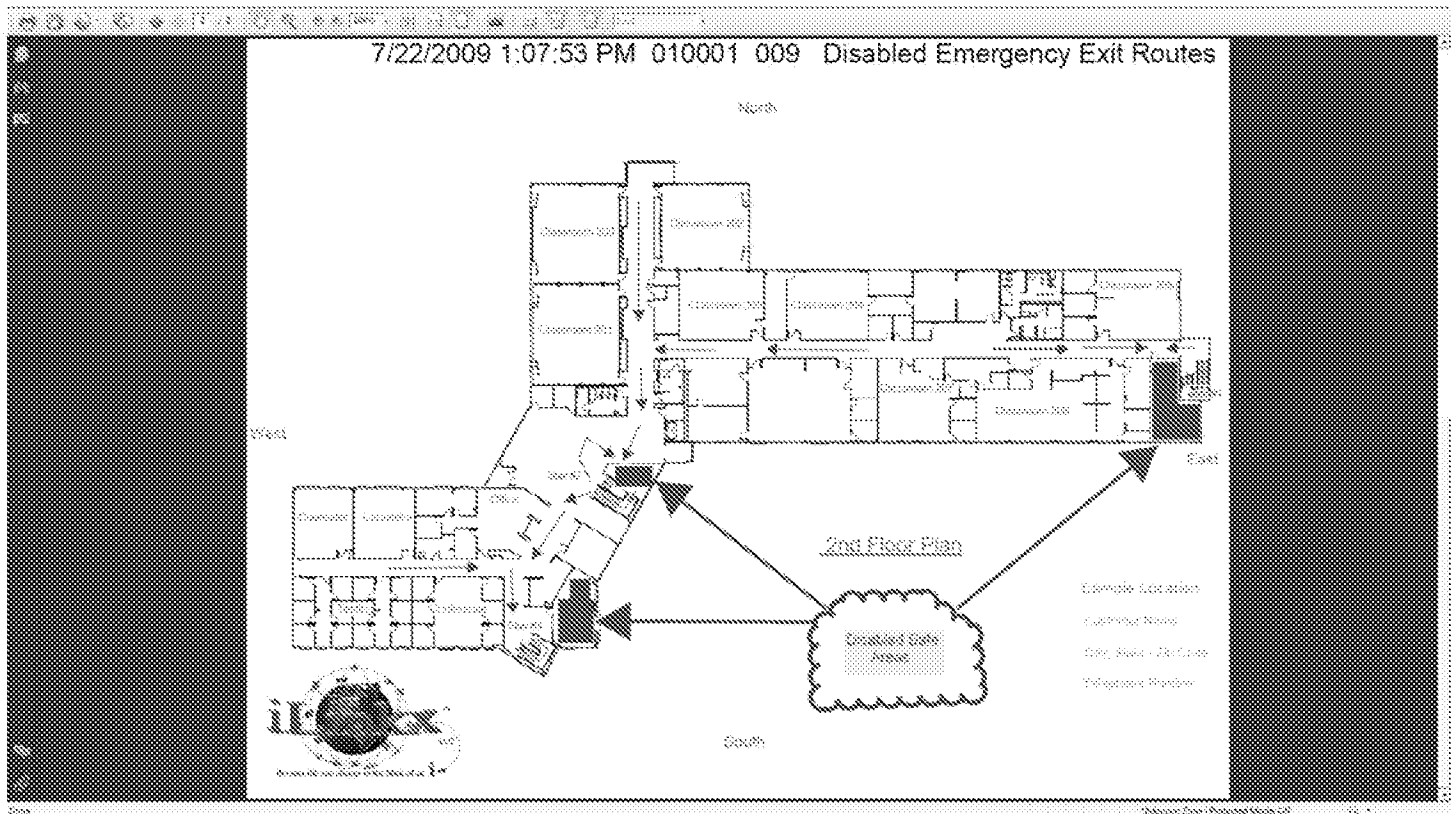


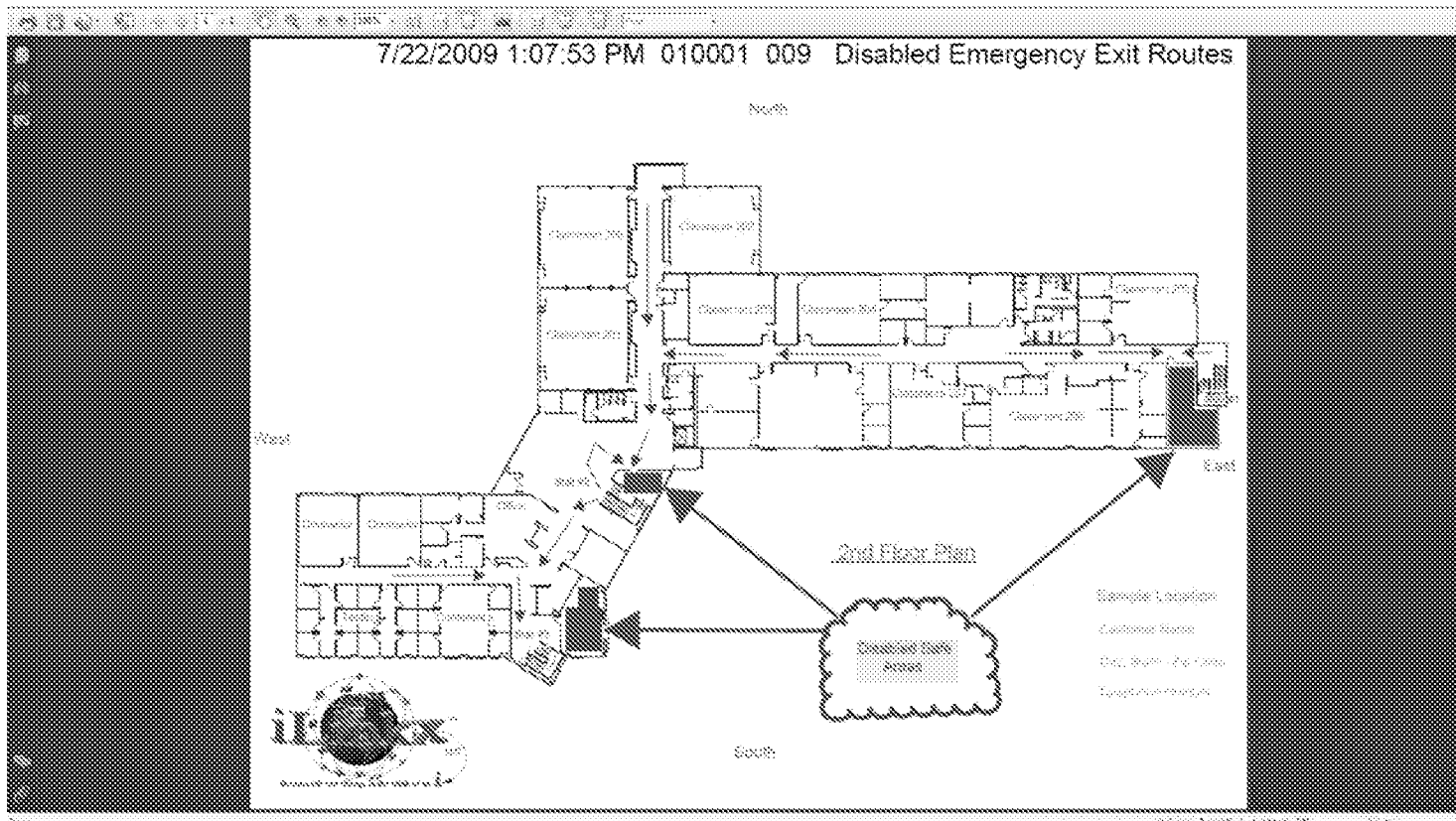


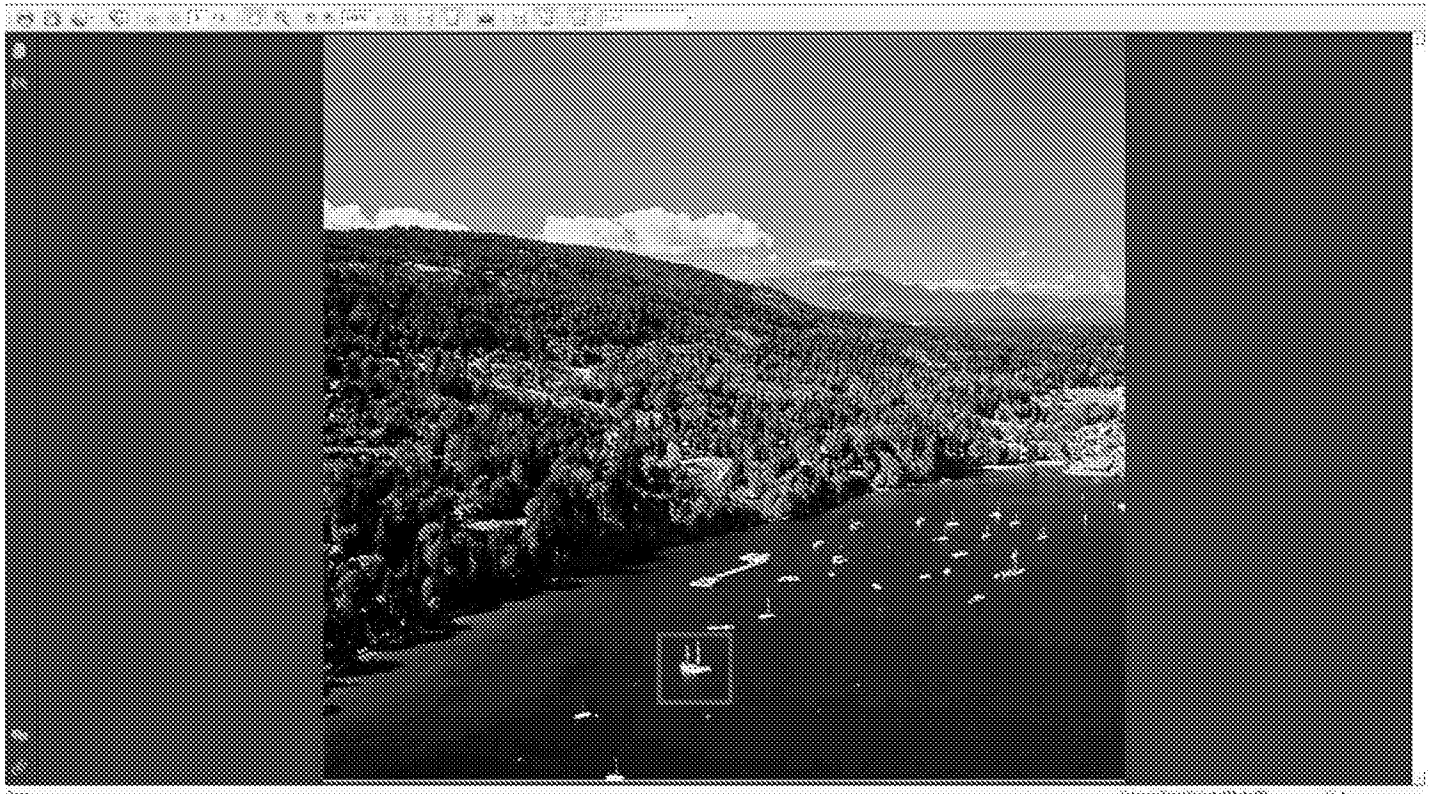


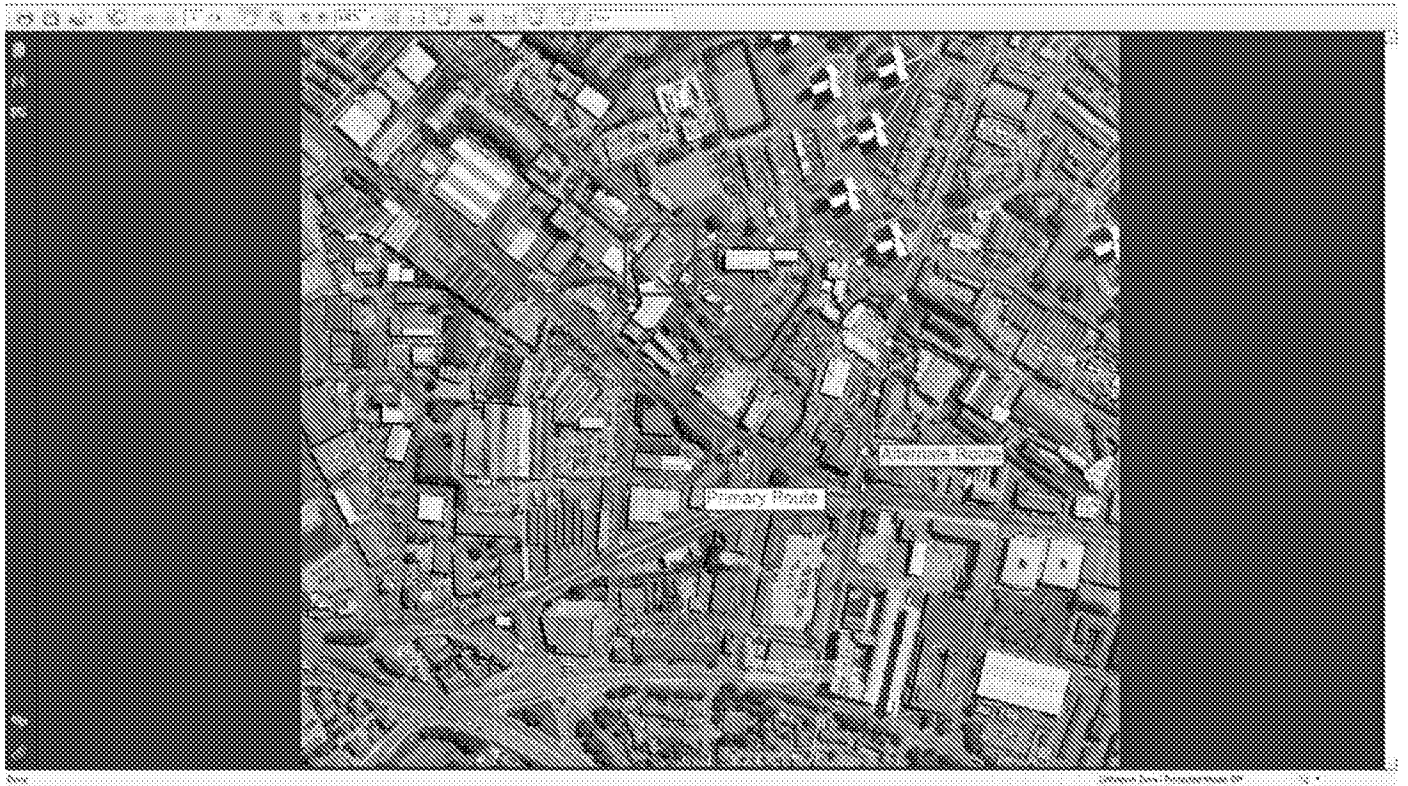


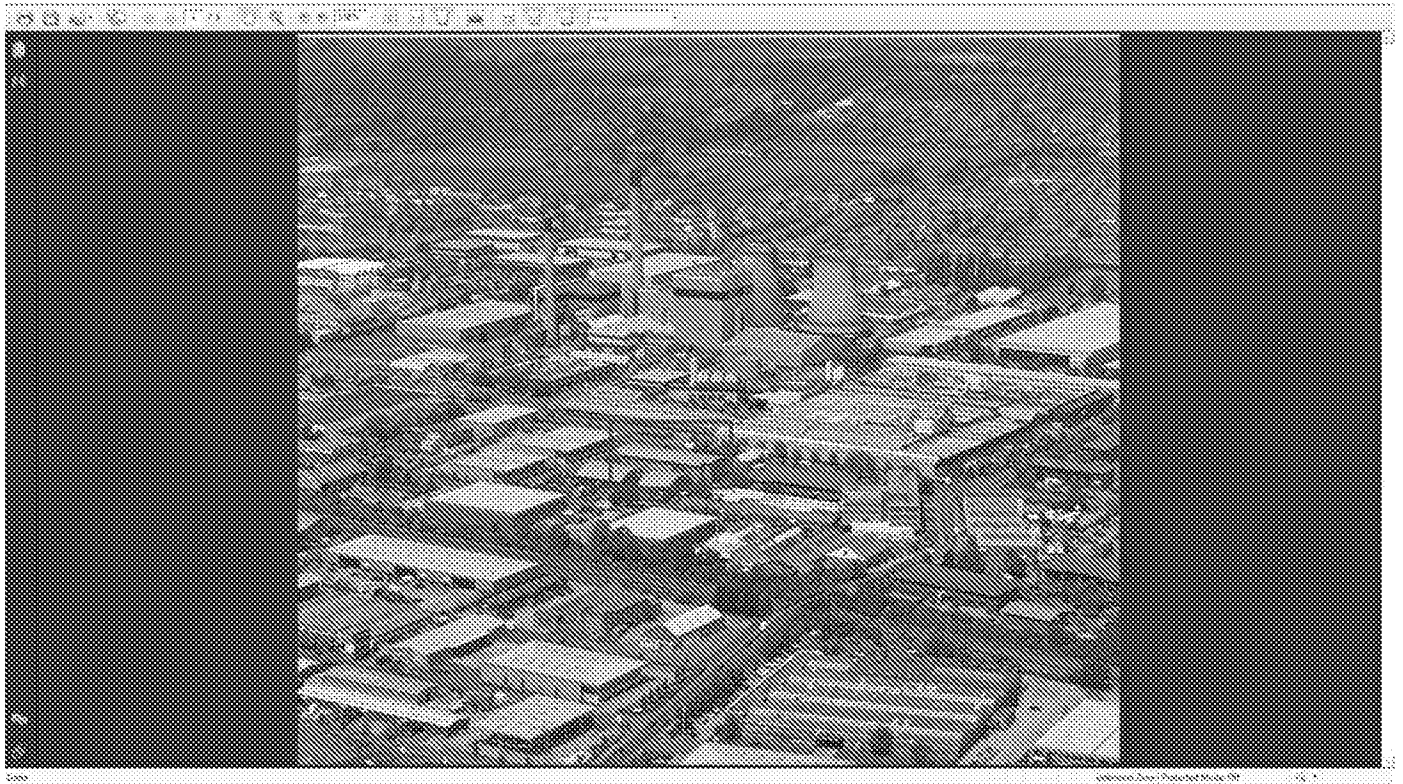


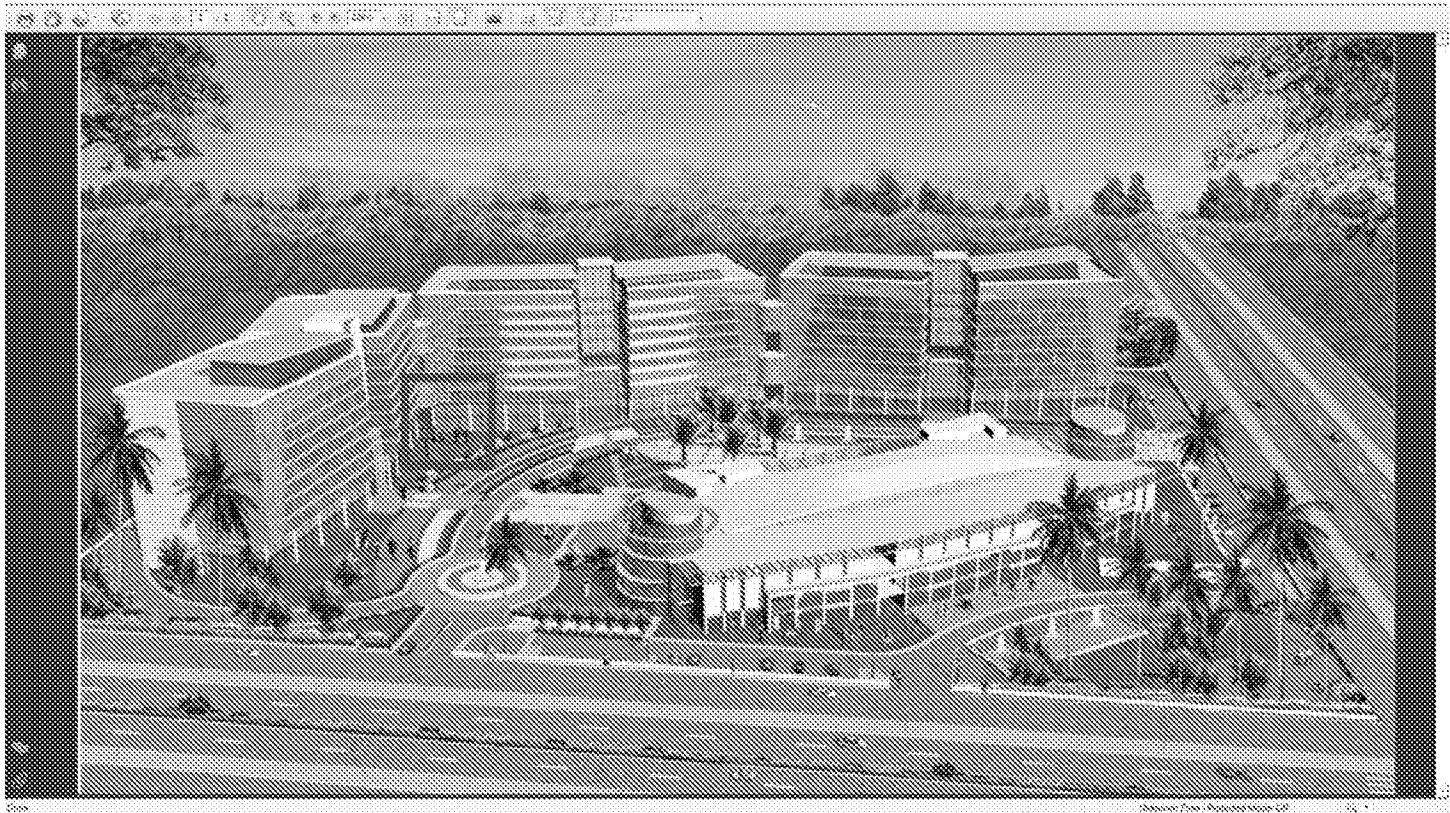


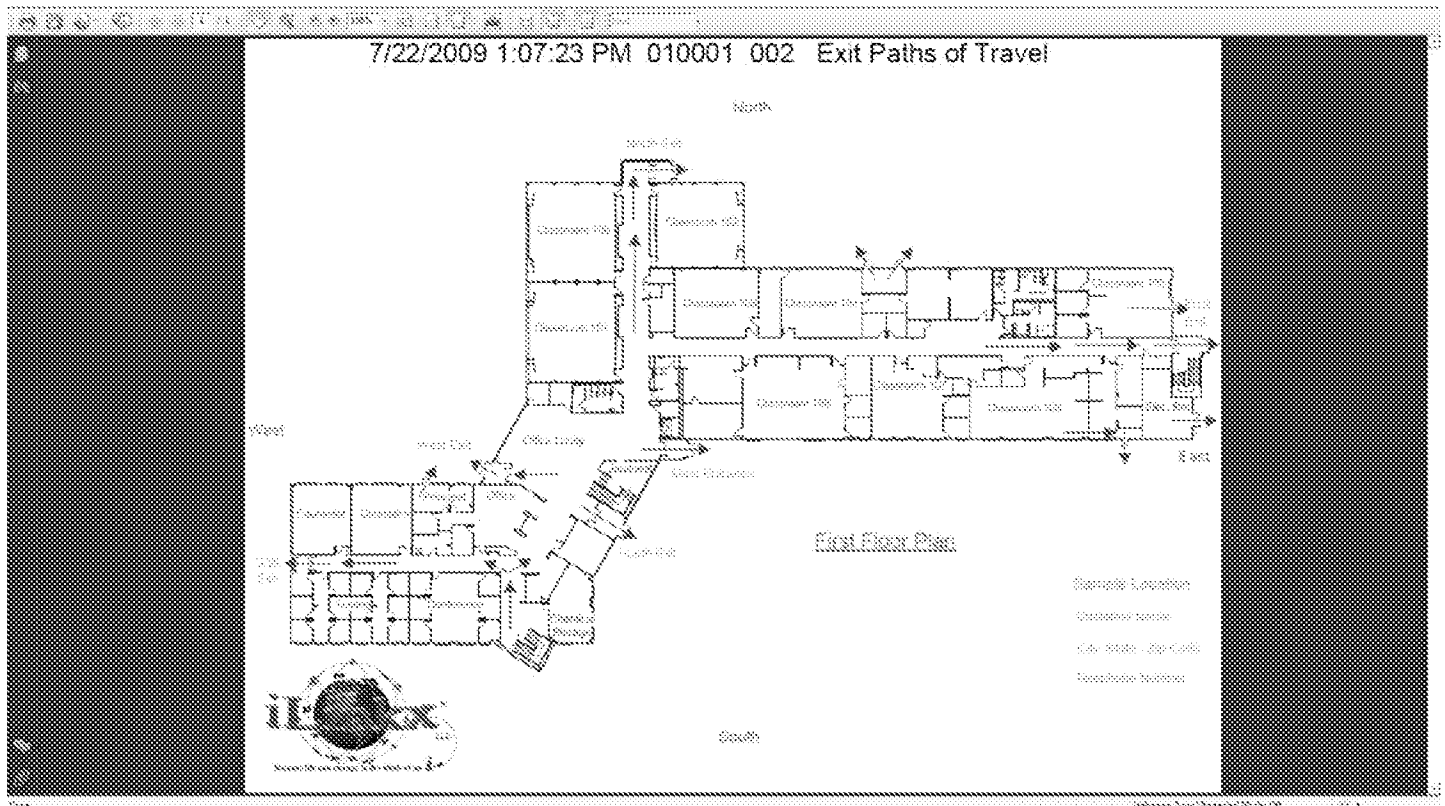


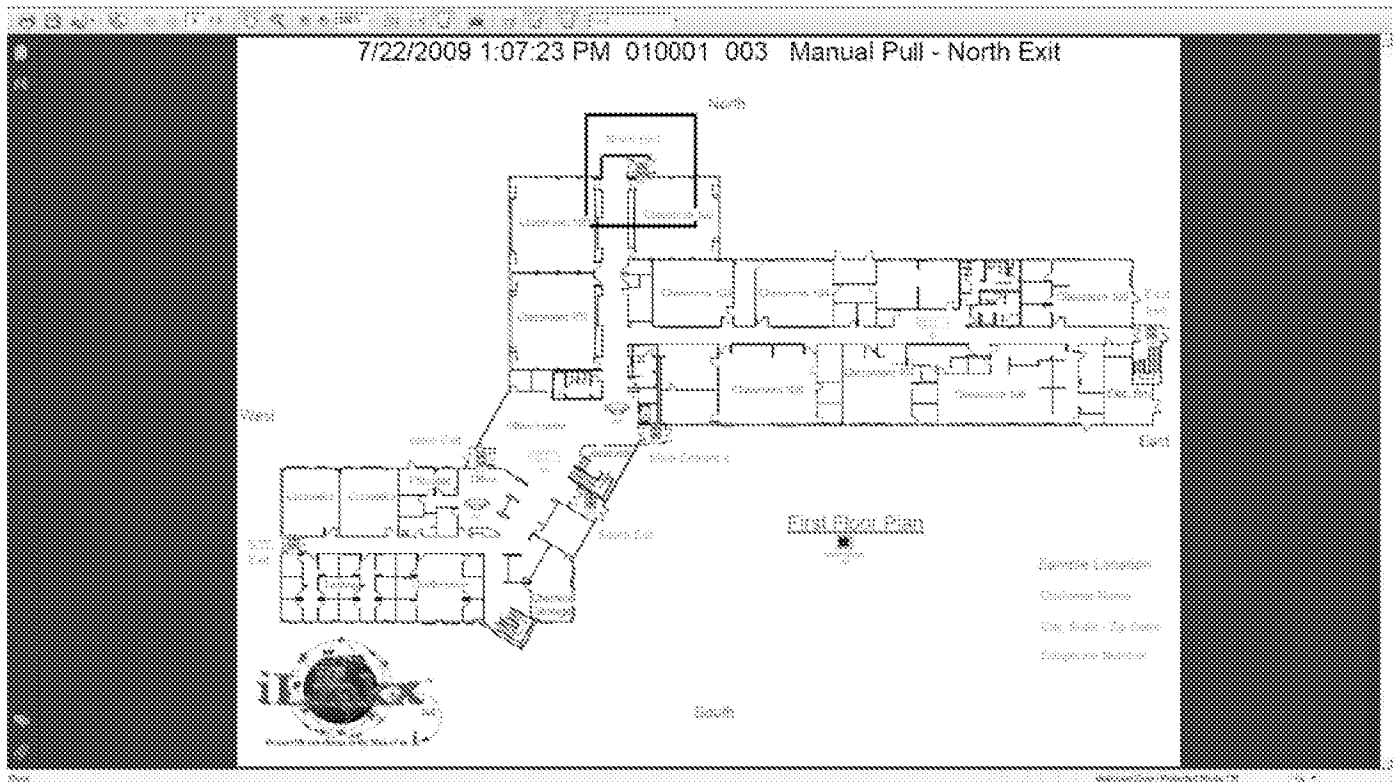


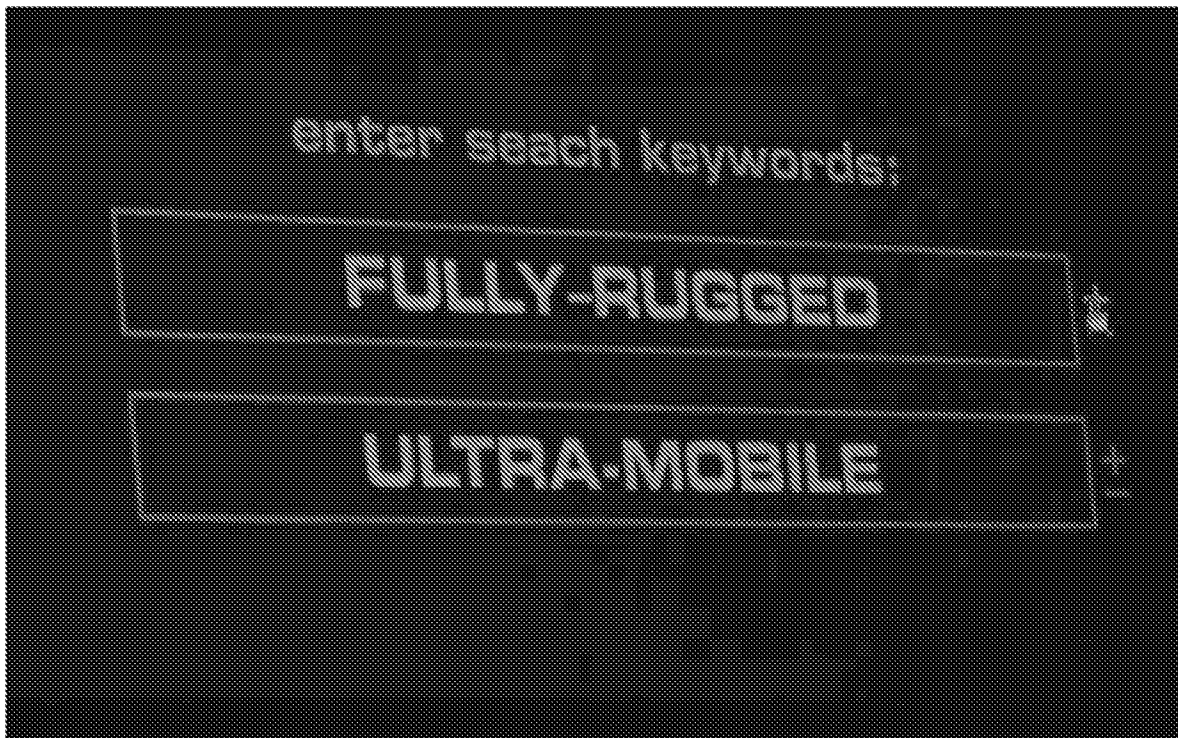












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17. Tracked User: [REDACTED]

18. [REDACTED]



